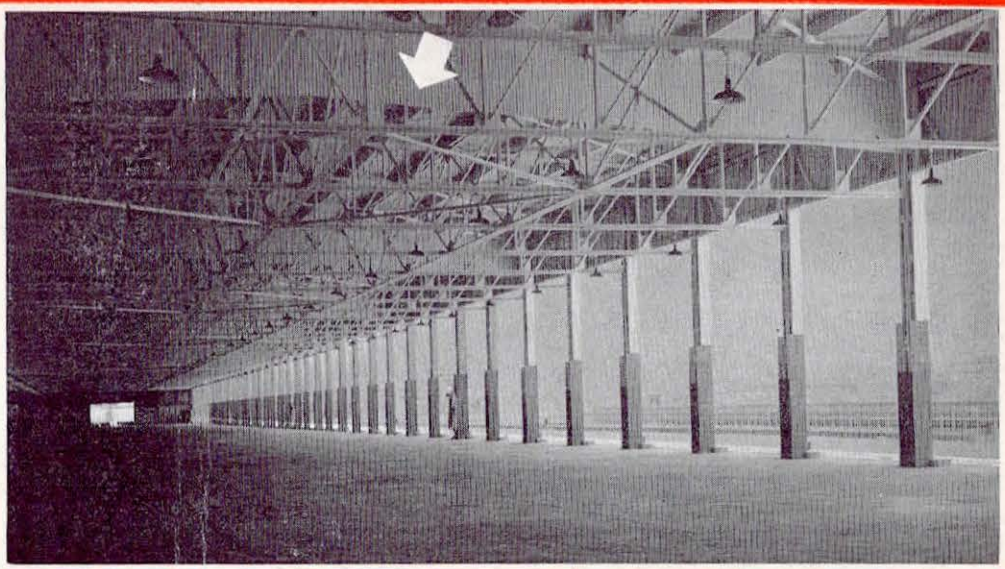
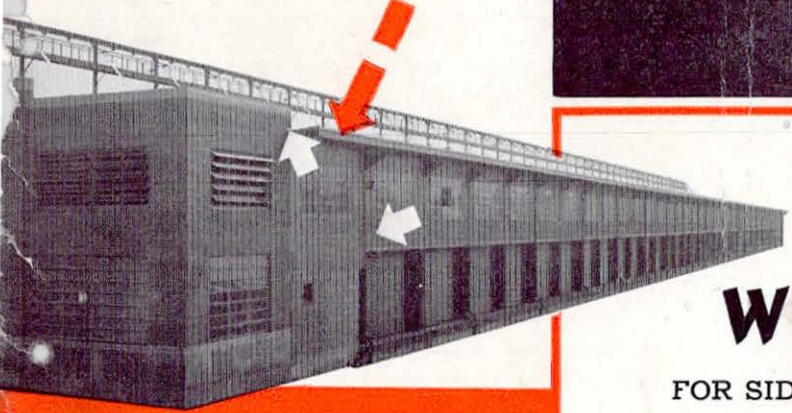
November 28, 1942

Railway Age

Founded in 1856

An added safety-factor in waterfront construction HERE





BYERS WROUGHT IRON

FOR SIDING · FLASHING · GUTTERS · FIRE WALLS

With all of the nation's metal allocated on the basis of greatest need, it is more vital than ever to select materials for maximum serviceability, as getting materials for repairs is a "rob Peter to pay Paul" proposition. Proper material selection is of magnified importance in waterfront construction, because of the severe corrosion problems encountered.

In the construction of a pier for the Pennsylvania Railroad the engineers added a serviceability safety factor by the use of wrought iron in siding, flashing, gutters and firewalls.

Railroads have used wrought iron for many years in applications like these. One installed a large amount of 22-gauge sheet as siding on three piers. Another used wrought iron sheets to replace failed sheets of another material on a roof over operating machinery on a Chesapeake Bay coal dock. A third used wrought iron sheets as roofing on the wheel house of a car ferry. And the use of wrought iron for fire curtains under piers is accepted practice.

If you are planning any structure where severe corrosive conditions are present—whether from salt, brackish or polluted waters, or from salt or industrial atmospheres—you can tap the experience of many other engineers as a guide in selecting materials. For a number of years we have been building an "Experience Pool" of performance records which is at your entire service. If you will write, outlining details, our Engineering Service Department will make recommendations based on the service of wrought iron in similar applications. Ask, also, for our General Catalog, which will give you complete dimensional information on all Byers products.

A. M. Byers Company. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

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CORROSION COSTS YOU MORE THAN WROUGHT IRON

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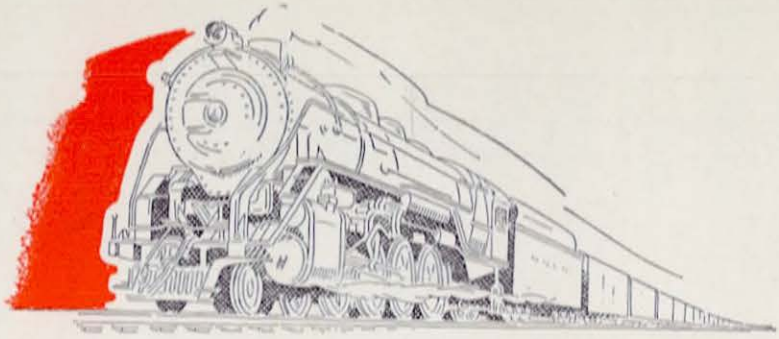


Every new locomotive that is equipped with Timken Bearings

Will save (For 4-8-4 type Steam locomotive) 2,438 pounds of copper and 218 pounds of tin, both of which are now so badly needed for other essential war materials.

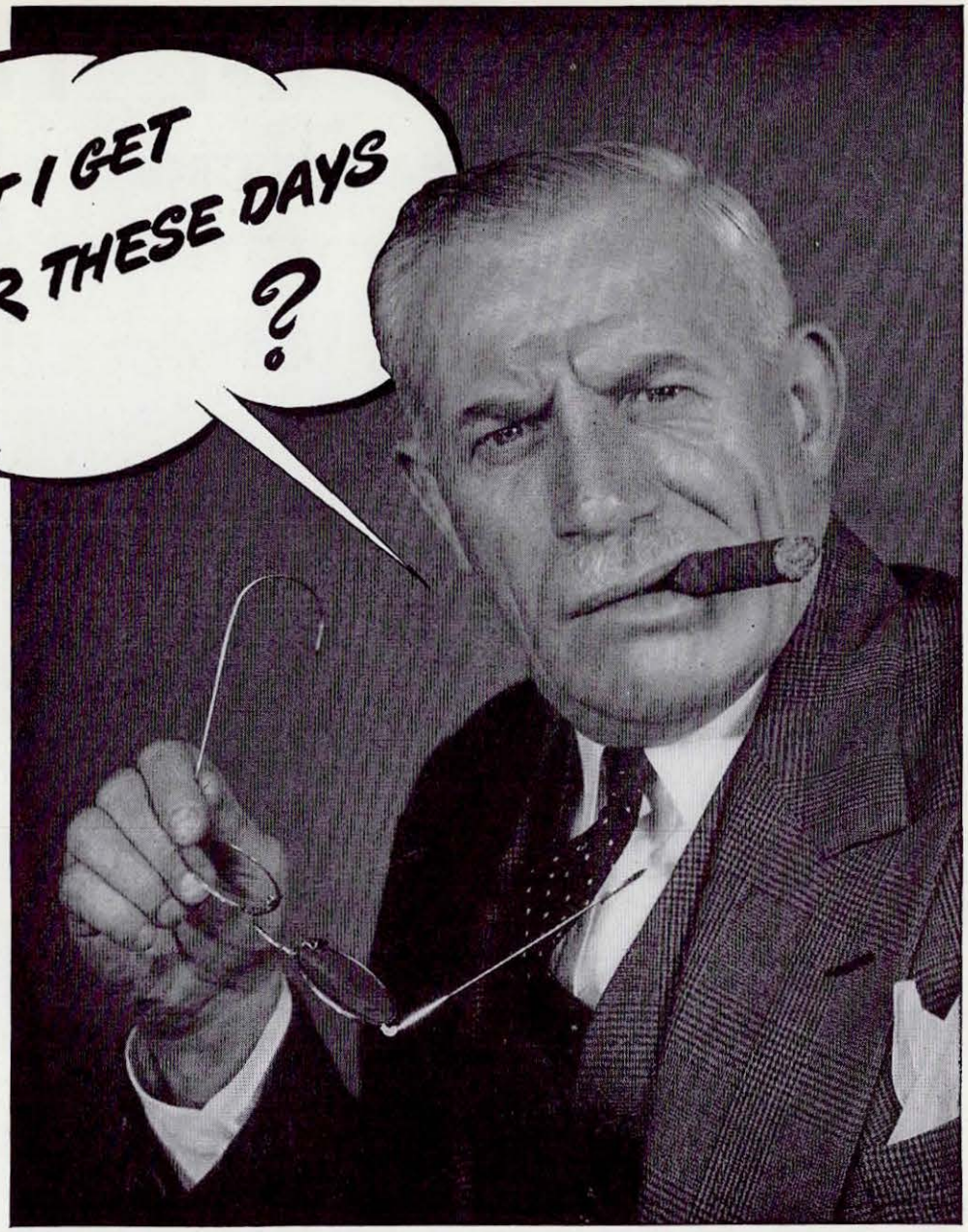
And will make possible a 75% increase in locomotive availability. (Averaged records of 6 railroads show that 4 Timken Bearing Equipped locomotives will do the work of 7 similar Friction Bearing locomotives)

These same important war-time savings are also available for existing locomotives by converting them to Timken Bearings

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
RAILWAY ROLLER BEARINGS

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 113, No. 22.



"We need it for tanks, gun mounts, and ammunition trays."

"We need it for destroyer stacks, and for guns."

"We need it for use in airplanes."

Mayari R, Bethlehem's high-tensile, low-alloy steel, has been drafted. Its strength, its resistance to rust and to impact, its ready workability and weldability, make it ideal for many types of fighting equipment. Every ton that can be produced is being rushed to tank arsenals, airplane factories and other war-production plants.

Regrettable as are the difficulties that this has caused many commercial customers, we know that they will bear with us, recognizing that there is a war to be won. Our fighting forces urgently need the tools with which to do the job, and weight-saving Mayari R is being commandeered for use in those tools, especially for mobile equipment.

Why Mayari R is so useful in fighting equipment

These physical properties of Mayari R explain why it is being used so much in many types of fighting equipment:

Ultimate tensile strength, p.s.i., minimum	70,000
Yield Point, p.s.i., minimum	50,000
Elongation in 2 in. per cent, minimum	22
Endurance limit, p.s.i.	50,000
Endurance ratio	0.70
Modulus of elasticity	28-30,000,000

BETHLEHEM STEEL

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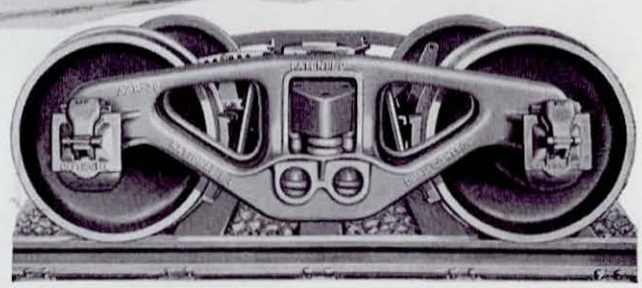
NATIONAL B-1 TRUCKS
with DUAL CONTROL



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National B-1 Trucks with Dual Control help do that by controlling both vertical and horizontal oscillations.

Two friction elements in each side frame control spring bounce and keep trucks in alinement, thus assuring greater protection to both car and lading.

They meet all A.A.R. requirements.

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MEMO
from the GENERAL MANAGER

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GRC

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MANY RAILROAD MEN KNOW HOW TO PREVENT THIS LOSS

Many railroad maintenance men protect their steel bridges by treating them with NO-OX-ID. If corrosion is causing loss of steel on your bridges, you certainly don't have to put up with it a minute longer. Use NO-OX-ID to stop rust and eliminate also the expense resulting from costly replacements of rusted-out members. Write for information.

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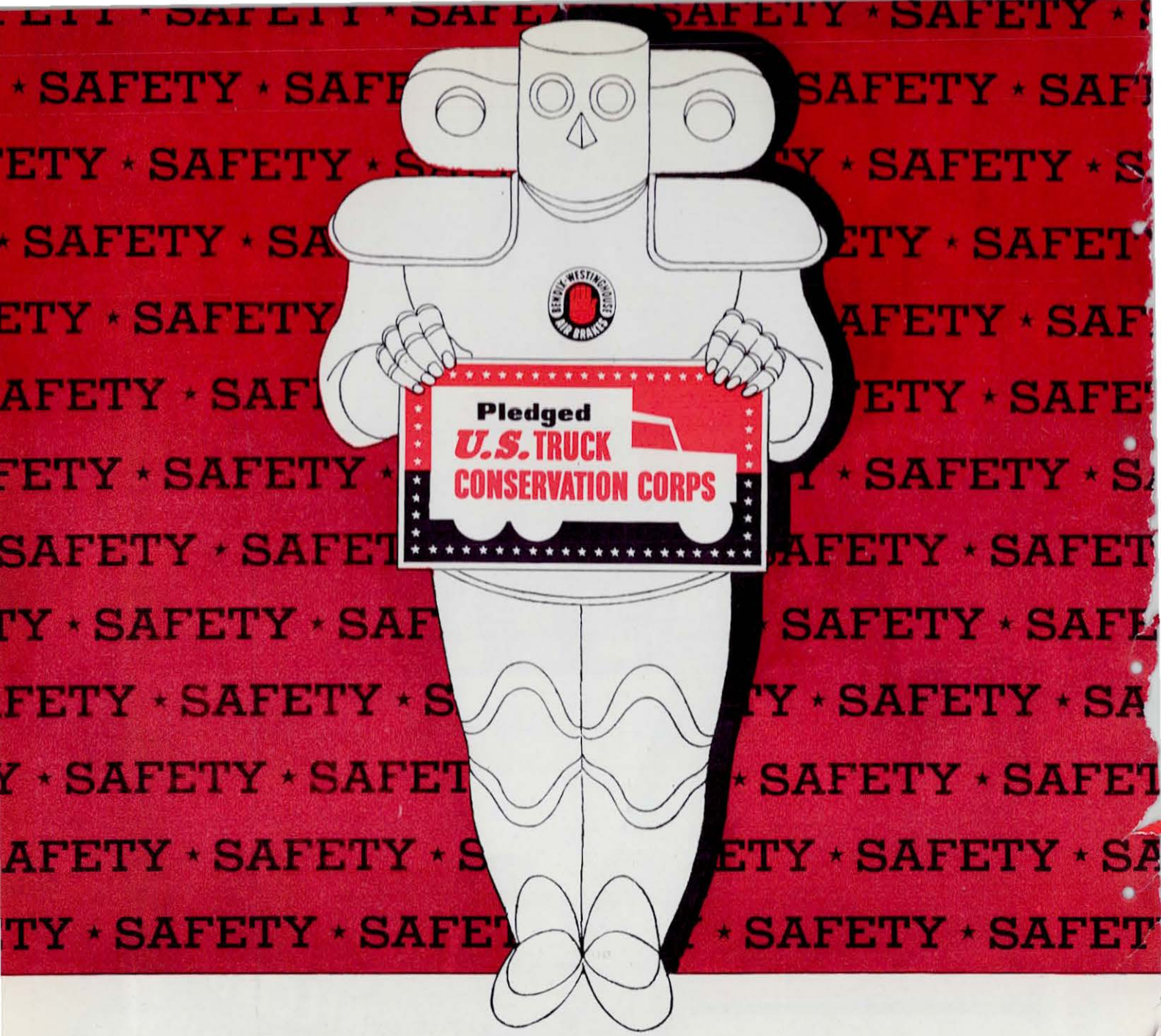
IRON + OX = RUST
TRADE MARK
the original rust preventive



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THAT'S RAILROADING, BROTHER!

Something suddenly happened, 5000 miles east of our border. Uncle Sam had to hurry 12,000 soldiers to the trouble zone as a self-contained, self-sufficient fighting unit. Maybe 12,000 doesn't seem like many to you but—

In the closely guarded Washington headquarters of the Army's transportation services, the quietly efficient officers in charge of rail transportation began sending out instructions by teletype, telegraph, and telephone to Army camps and forts scattered over half of this country.

"Have S many men, with M equipment, at Port Y on Q day," was the gist of the instructions they relayed to railroads—coded or scrambled to fool enemies. For more than a decade Army officers had been learning to assemble a task force in a hurry.

Almost at their elbows in the same Washington building, the Military Transportation Section of the Association of American Railroads snapped into action. The Army's job was to assemble men and equipment. The Military Transportation Section's business was to carry out Army orders along 400,000 miles of main lines and sidetracks, maintained and operated by nearly a million American railroaders.

Teletype, telegraph, and telephone were transmitting plans designed to carry out these orders. One road was assigned to have a Mallet, "twenty flats, and eight Pullmans ready for loading at G Junction tomorrow." Another road was hooking "that new diesel-electric to 40 flats, 20 box cars, and 10 Pullmans on a certain sidetrack at Z by F o'clock tonight." And so on over dozens of American railroad systems.

No "alert" for the Army or railroads this time. And no chance for alibis or arguments. Get your motive power and rolling stock to the Atlantic Coast embarkation port on schedule—or else.

A gun battalion on troop trains rolled down from New England, a hospital outfit from Long Island, an ordnance storehouse platoon from near Brooklyn, a refrigeration company from New York State, a photographic company from Pennsylvania, two bakery platoons from Maryland, a medium maintenance company from Delaware, medical officers and a signal corps repair company from West Virginia, two laundry platoons from Ohio, a truck company from upper Michigan, and an air-base squadron from lower Michigan.

Other troop trains made up in Texas, Illinois, Florida, and other widely scattered states brought artillery, infantry, finance officers, air-raid warning companies, shoe-repair details, veterinaries, ammunition, hospital and sterilization experts, signal men, medical supplies, and engineers.

All of them got there and sailed from N port on schedule, thanks to the Army and railroad men who perfected the plans—and the soldiers and railroaders who carried them out.

That's soldiering, Colonel!

—The Trackwalker

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The Steam Locomotive

By R. P. JOHNSON

Chief Engineer, The Baldwin Locomotive Works

Theory, operation and economics of the steam locomotive, in the light of recent research and current practice. Comparisons are made with the Diesel locomotive. Just enough historical background is given to indicate paths of development. This new book is of interest to locomotive designers, mechanical engineers, superintendents of motive power, locomotive shop superintendents, master mechanics and motive power officials.

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Mastering Momentum

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First Vice-President, The New York Air Brake Company

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Laws, rules and instructions for inspection and testing of steam locomotives and tenders, and other than steam locomotives, with interpretations, rulings and explanations on questions raised relative thereto, as prescribed by the Bureau of Locomotive Inspection. Includes safety appliance standards for locomotives as fixed by order of the I. C. C.

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Diagram of a 4-6-4 Hudson Type Passenger Locomotive

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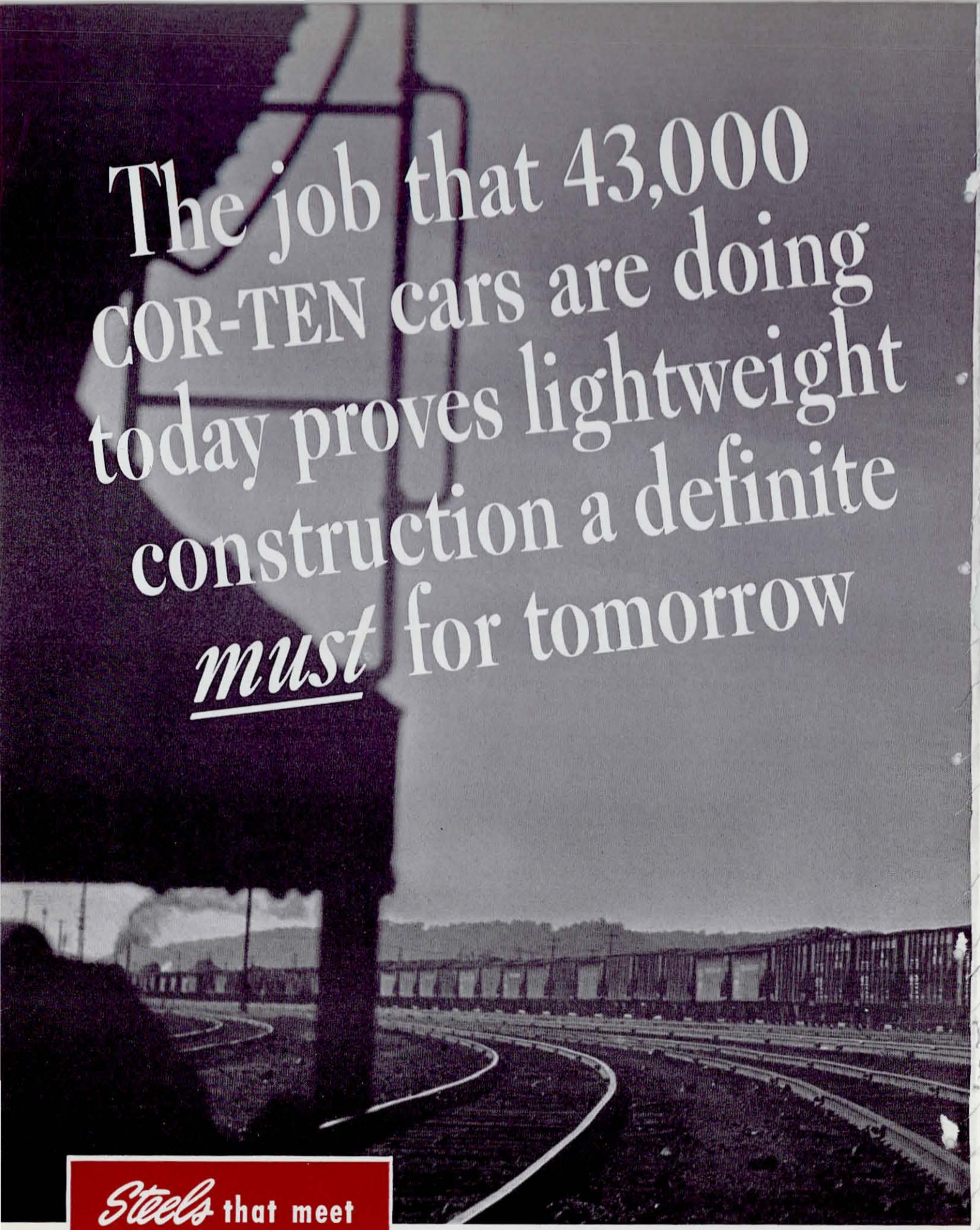

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NO RAILROAD MAN who has checked the outstanding performance of COR-TEN freight cars during the intensive operations of the war effort can fail to be impressed by the records for economy and serviceability being established by this lightweight equipment.

Each able to carry 2 to 5 tons more payload, these 43,000 big-capacity COR-TEN cars provide a total of 110,016 tons additional freight-hauling capacity, the equivalent of adding 2,200 extra cars.

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This question deserves the thoughtful consideration of every man concerned with the continued prosperity of rail transportation. That is why we believe it important to remind you not to overlook the well-proven benefits of COR-TEN construction in your post-war planning.

Then, when every economic advantage you can give your equipment will be sorely needed to meet the certain and serious competition of other forms of transportation, COR-TEN will once again be available to help you save weight, increase capacity, reduce operating costs and prolong life. Plan to put this superior steel to work. Our engineers will gladly show you how it can be most economically applied.

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UNITED STATES STEEL

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Short Cuts to quicker hauls

AMERICAN railroads now are carrying nearly twice the gross ton-miles of freight they were hauling three years ago . . . and they are breaking all records in passenger traffic. This amazing wartime performance is neither a miracle nor a military secret. It is the result of hard work, skillful coordination, careful maintenance — and a far-sighted engineering program on the part of management that prepared the railroads for today's emergency.

A dominant feature in this long-range planning has been the erection of modern bridges to shorten circuitous routes, eliminate flood hazards, and improve traffic integration. How fortunate it is for our nation's war effort that many of these projects were completed before Pearl Harbor!

American Bridge has built many of these strategic structures. For example, the massive high-level bridge above is the main link in an important cutoff which shortened trackage by 3½ miles and kept it clear of flash floods. The double-deck cantilever bridge shown was erected as part of railroad and highway relocations made necessary by a huge water-power and irrigation project. The bascule bridge replaced an old swing span, providing a wider navigation channel and speeding both rail and river traffic because of a sharp reduction in opening and closing time.

We are glad to have had a part in projects which contribute so greatly to the wartime usefulness of America's railroads. And we look forward to the time of peace when all our resources and facilities will again stand ready to serve the railroads in meeting their post-war tasks and responsibilities.

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Baltimore · Boston · Chicago · Cincinnati · Cleveland · Denver · Detroit · Duluth
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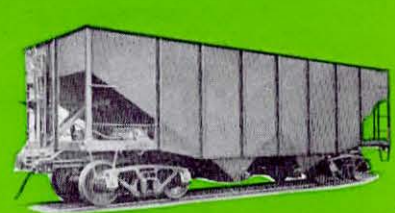
UNITED STATES STEEL

SEVEN LEAGUE BOOTS



A.C.F. HOPPER CAR

for America's Freight Cars

Freight is on the march as never before! Each *minute* of the day and night a *million* tons must be moved a *mile!*

To handle this incredibly vast and complex movement smoothly and efficiently, calls for the highest skill and organization on the part of the railroads. Freight cars must be at hand . . . in Bangor, or San Antonio . . . in Detroit, or Baton Rouge. Freight cars of the right types . . . in the right numbers . . . when and where wanted.

Made into great hundred-and-fifty car trains, these freight cars roll — across a continent, if necessary — at what yesterday were considered passenger train speeds. Freight yards by the thousands hum at top speed. A million railroad men of every rank give of their best, to make certain that vital deliveries of war-needed materials arrive at their destination almost to the minute.

With far fewer cars in operation, revenue ton-miles are 47% above the boom year of 1929 — 32% above 1941. Convincing evidence, indeed, that America's freight cars now stride in 7-league boots!

Railroad men know well the value of team work — and through team work with our customers A.C.F. has developed many advances in car design and construction.

A.C.F. AMERICAN CAR AND FOUNDRY COMPANY

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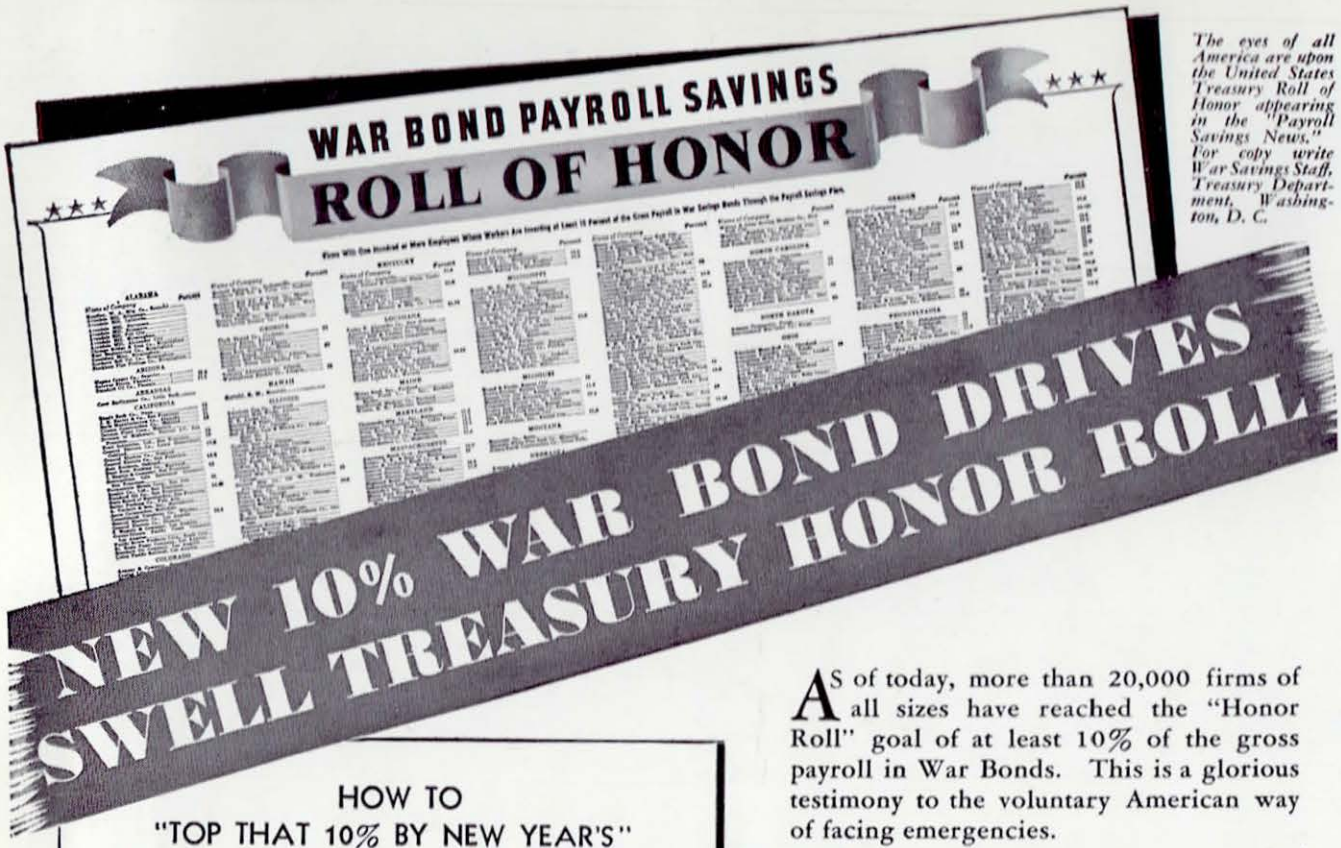
WHATEVER A.C.F. BUILDS — IT IS KNOWN TO BUILD WELL!

A.C.F. GONDOLA CAR

A.C.F. - BUILT SHPX TANK CAR



The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with

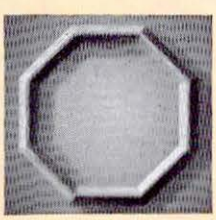
War Savings Bonds

This space is a contribution to America's All-Out Effort by RAILWAY AGE

RESEARCH CARRIES ON

TODAY our many plants are busily engaged with production of steel castings, forgings and springs for the use of our fighting forces.

In this effort, our laboratories and research facilities are playing a most important part in the development of better compositions for cast armor.



The octagon . . . a trade mark of good steel castings.

And yet . . . research in the railway field carries on. This research will be reflected . . . in improved A. S. F. products for freight cars and locomotives . . . in better clasp brakes for finer, faster equipment . . . in steel castings that will stand the tough tests of tomorrow.

AMERICAN STEEL FOUNDRIES

Chicago

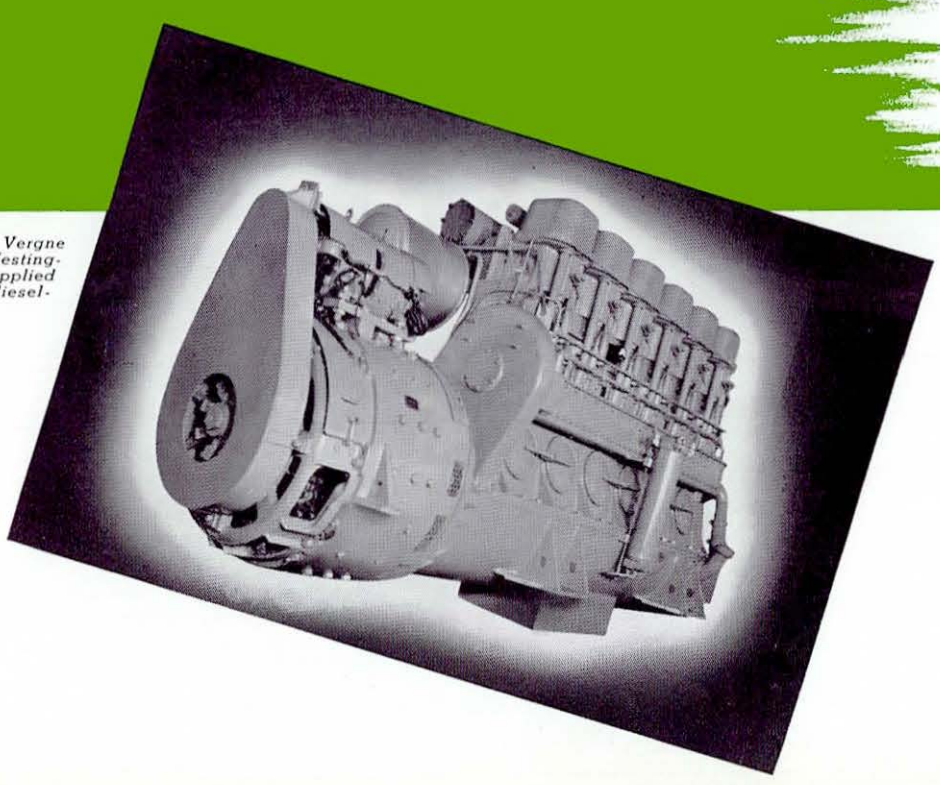
BALDWIN

rugged and dependable

For more than a century, Baldwin's main job has been designing and building motive power equipment for railroads. Baldwin engineers are specialists in meeting railroad problems. Baldwin construction methods have been developed to produce the best in modern power.

This accumulated experience stands back of Baldwin diesel-electric switching locomotives, and the Baldwin-built De La Vergne engines with which they are powered. The electrical equipment is a product of Westinghouse, suppliers of railroad equipment for more than 40 years. The result is a rugged, dependable diesel-electric locomotive giving high availability and speedy car handling in terminals.

Locomotives of all types, military tanks, guns and other essential items—all produced by Baldwin—are playing an important part in America's war program.



Baldwin-built De La Vergne diesel engine and Westinghouse generators as applied to Baldwin 660-hp. diesel-electric locomotives

DIESELS

Baldwin 660-hp. diesel-electric switching locomotive for the Chicago and Eastern Illinois. De La Vergne 6-cylinder, 4-cycle diesel engine. Westinghouse electrical transmission equipment.

BLW THE BALDWIN GROUP

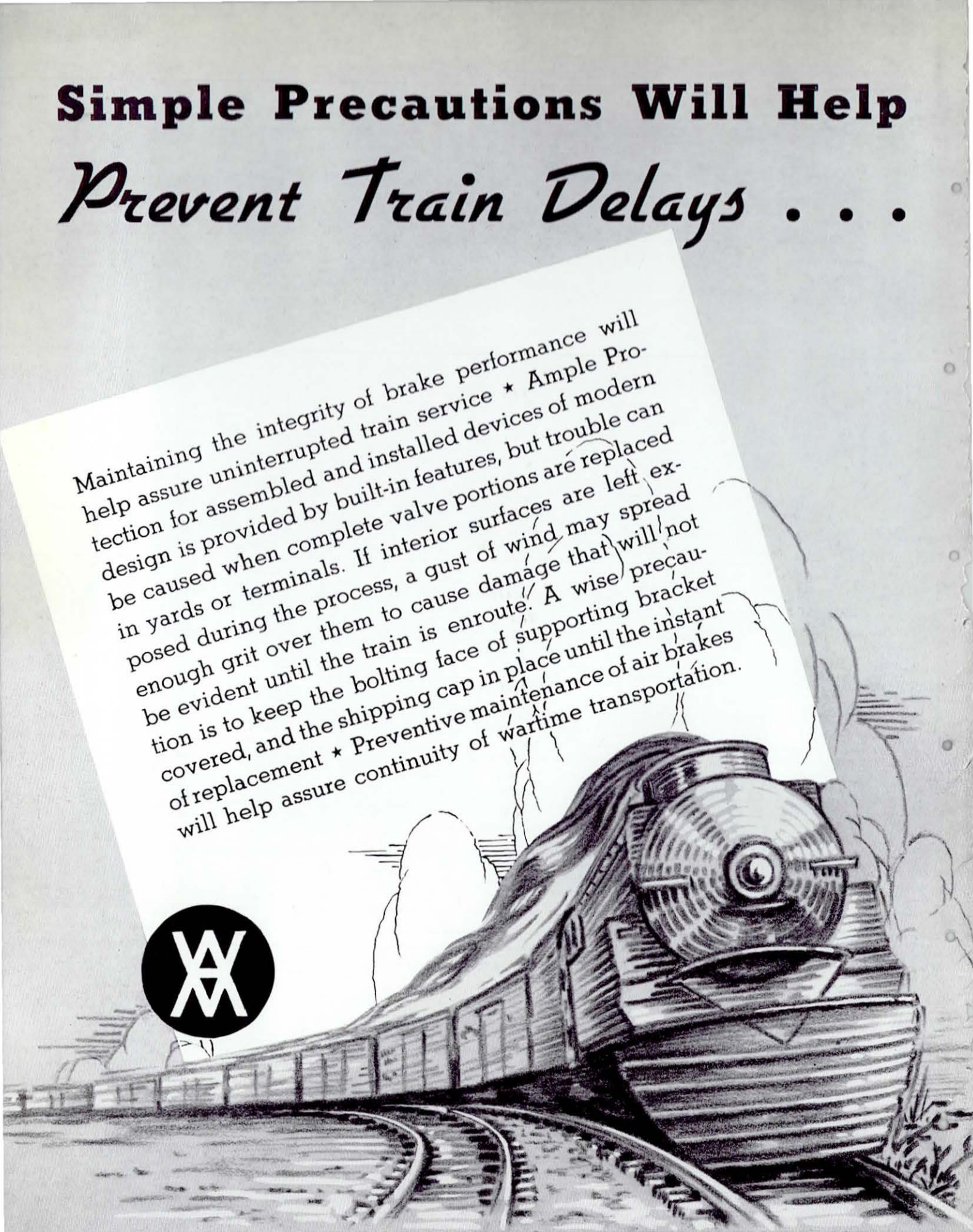
THE **BALDWIN** LOCOMOTIVE WORKS

Philadelphia

Simple Precautions Will Help

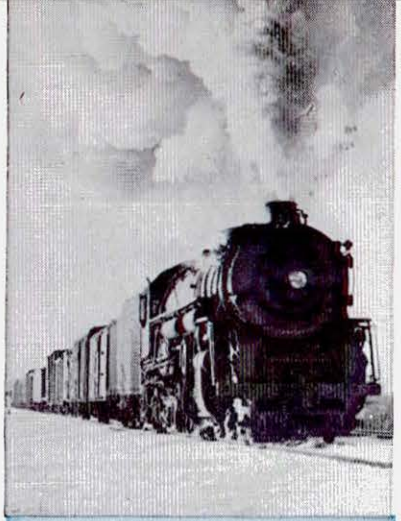
Prevent Train Delays . . .

Maintaining the integrity of brake performance will help assure uninterrupted train service ★ Ample Protection for assembled and installed devices of modern design is provided by built-in features, but trouble can be caused when complete valve portions are replaced in yards or terminals. If interior surfaces are left exposed during the process, a gust of wind may spread enough grit over them to cause damage that will not be evident until the train is enroute. A wise precaution is to keep the bolting face of supporting bracket covered, and the shipping cap in place until the instant of replacement ★ Preventive maintenance of air brakes will help assure continuity of wartime transportation.



WESTINGHOUSE AIR BRAKE CO.

WILMERDING, PENNSYLVANIA



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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

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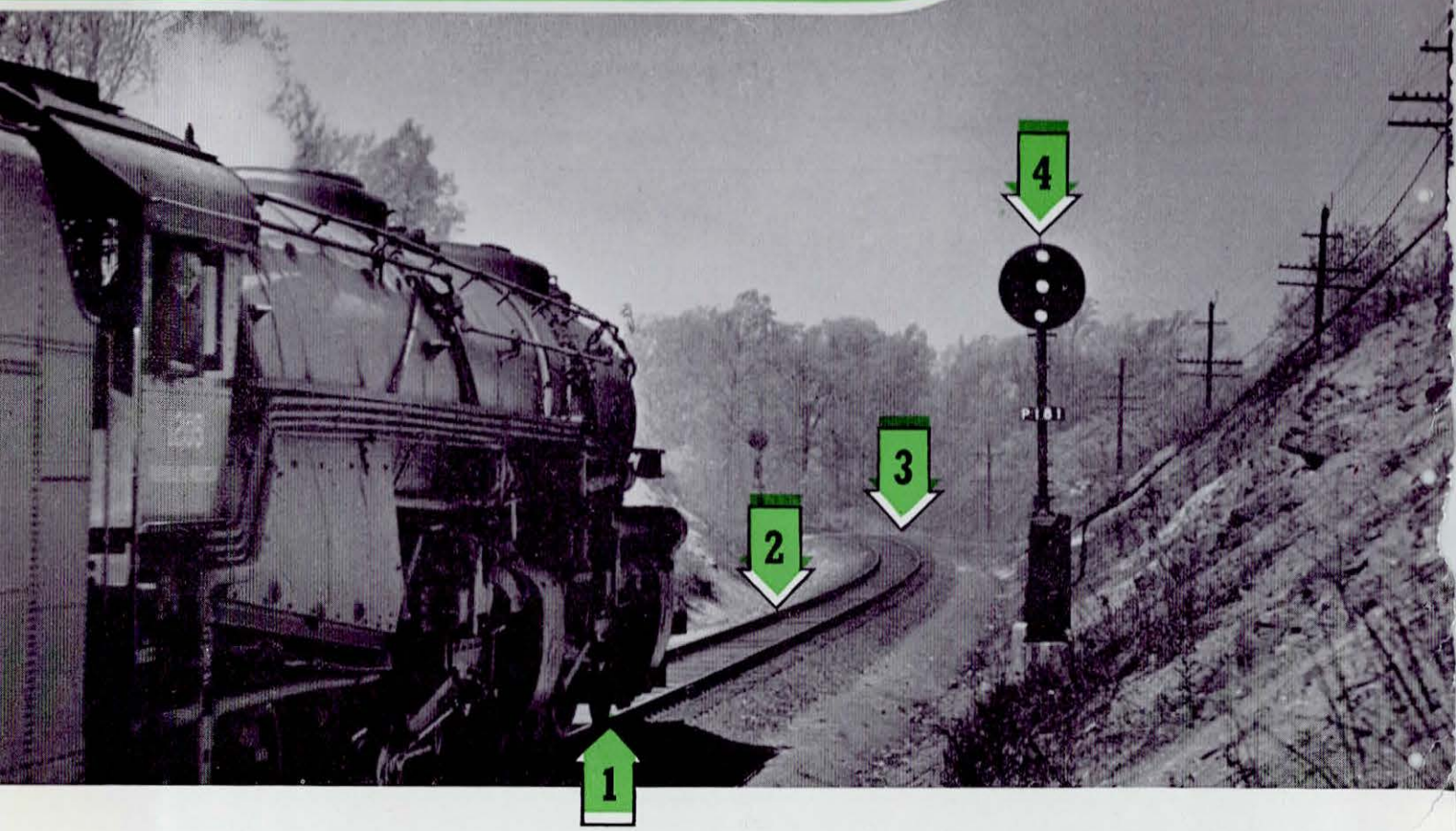
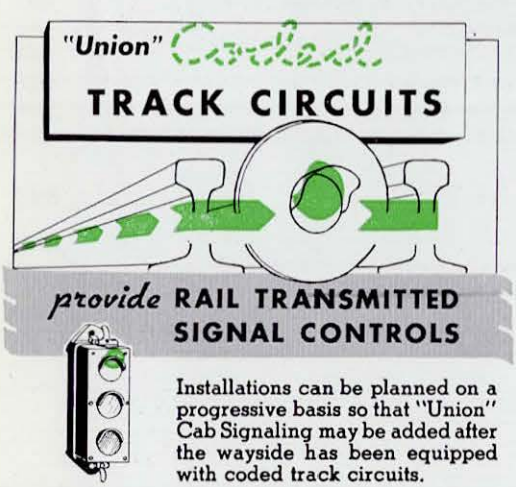
PRINTED IN U. S. A.

Important advantages of "Union" Coded Track Circuit Control!





Installations can be planned on a progressive basis so that "Union" Cab Signaling may be added after the wayside has been equipped with coded track circuits.

"UNION" Coded Track Circuit Control provides a vast improvement over the best that can be accomplished with a steady-energy track circuit for comparable service. The following are some of its advantages:

1. BETTER SHUNTING SENSITIVITY is obtained because a train shunt need only reduce the track circuit potential below the track relay's pick-up value instead of the release value.
2. RAIL-TRANSMITTED SIGNAL CONTROLS greatly reduce in number or entirely eliminate the line wires required by most signal systems employing steady-energy track circuits.
3. LONGER TRACK CIRCUITS are operated with coded control than is possible with steady-energy track circuits and therefore cut sections are seldom required.
4. INCREASED SAFETY OF TRAIN OPERATION is obtained as the display of a "proceed" signal indication depends upon the continuous operation of the code-following track relay in response to the coded energy applied to the track circuit.

2089

UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.
NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

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Manpower

The fundamental error of the government's procurement program—which is now recognized, at least in principle, and is in process of correction—was the allotment of supplies according to the importance imputed to the *users*, rather than to the *use* to which they were to be put. Thus, an order by the military for cuspidors and ornamental brass would take precedence over a civilian request for copper to be used, say, for transmission lines to carry power into munitions plants. Now, the procurement authorities are trying to determine, in the order of their importance, the "end products" which the total supply of scarce materials will afford—and materials are to be allotted on that basis, rather than on the relative military rank of the agencies which place the orders. Mistakes can be made under this regime, but they are not inevitable—as they were under the old one.

There is reason to doubt that the authorities have learned with respect to manpower what long months of painful experience have taught them regarding materials. It has recently been announced that the armed forces are to be built up to nearly 10,000,000 men. This decision was, seemingly, reached by lending ear only to military tacticians, and not by harkening to those whose duty it is to provide supplies and transport for the armed forces—and still less to those who are concerned with maintaining the civilian economy. Hitler and the Japs cannot be licked by soldiers who remain on the North American continent because there are not enough ships to take them abroad, or munitions and other supplies to keep them effectively in the field.

The Brookings Institution has recently issued a pamphlet (price 25 cents) by Harold W. Metz, entitled "Is There Enough Manpower?", which sets forth the basic facts which control our effective strength in military personnel. We are reminded that this nation cannot expect to maintain as large a ratio in arms as Britain or Germany, because the bulk of their forces operate near home. It is likewise recalled that we have extensive "lend-lease" commitments to England, to Russia, and to various other countries—an obligation which puts a further limitation on the size of the armed force which we can expect to put in the field.

To establish a force of 9.5 million men, or somewhat fewer than the announced goal, the Brookings pamphlet estimates that the work-week will have to be extended to 48 hours, that most non-farm housewives will have to go to work in industry, that children as young as 14 will have to be put at the bench, that production of civilian goods will have to be cut one-third (which will necessitate an increase of 30 billion dollars in taxes, unless wages are proportionately reduced instead).

The railroads cannot do otherwise than go along with whatever policy regarding manpower the political authorities choose to impose—and do the best they can with what they have. Patriotism permits no other course—but patriotism also requires responsible citizens to inform themselves on such a crucial issue as this one so that, if governmental authorities are found to be mismanaging it, they may be brought to book and required to adapt their policies to realities.

Gear Up the Machine for Maximum Performance

In addition to the Mechanical Division, A. A. R., there are several highly specialized railway mechanical associations. Four of these groups survived the depression and have been co-operating with each other in holding their meetings each year at the same time, with a common exhibit. This year, not one of these mechanical associations—not even the Mechanical Division—held conventions. Many railroaders who understand the practical and inspirational value of such meetings, feel that a serious mistake has been made. It is significant that similar organizations in the engineering department have gone steadily ahead with their work and have held unusually productive meetings.

The mechanical department associations, somewhat dismayed it is true, went forward as vigorously as possible with work on their committee reports. These have been completed and will be sent out to the members of the individual associations. They were also published in the November number of the Railway Mechanical Engineer. These four associations—the Car Department Officers, the Locomotive Maintenance Officers, the Master Boiler Makers and the Railway Fuel and Traveling Engineers—are to be congratulated upon the splendid work they have done under such unfavorable conditions.

While the ODT has discouraged the holding of conventions and unnecessary travel, Director Eastman and members of his staff, by attendance at certain types of such meetings, have apparently placed a stamp of approval upon some of them. There are meetings and meetings! A review of those held by the railway supervisory and official groups over the years indicates that most of them have been of a high order, from the standpoint of stimulating better performance and improvements in service. Are not such meetings of even greater value in an emergency, such as that through which we are now passing?

In recent years the mechanical department associations have been meeting at a central point which could easily be reached by a large proportion of their members. The value of getting together to compare notes, when men are striving to the limit to find means of making the maximum use of equipment and facilities, would seem to much more than warrant the time off the job and the extra travel involved. These officers have demonstrated in a very practical and effective way their interest in keeping these associations alive and produc-

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Transportation — VITAL TO VICTORY

GENERAL MOTORS LOCOMOTIVES

We Must "Keep 'Em Rolling"

WE repeat again that this war will be decided by the combined fighting forces on land, on sea and in the air . . . But of all the indispensable parts of the war effort, ***transportation*** is one of the most far-reaching. It enters every stage of production from the time the raw materials leave the ground until the finished product reaches its destination. Without ***transportation,*** our fighting forces, war materials and the great army of men and women in our war production plants, would be useless . . . More than 125 General Motors Diesel Freight Locomotive Units now in service are providing faster schedules, greater tonnage-hauling capacity, higher availability, with marked reductions in operating costs . . . And we are still building them as directed by the War Production Board.

Electro-Motive, like the other 90-odd plants of General Motors, is working 24 hours a day producing more for VICTORY because —

VICTORY IS OUR BUSINESS

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U.S.A.

Efficiency FOR VICTORY

Gambling With Transportation

The railways having surmounted the peak of 1942 freight traffic with virtually no surpluses of locomotives and cars, how serious is the danger of shortages in future?

Traffic statistics for October are not yet available, but previous increases justify an estimate that ton-mileage in that month was 61 billion 300 million—an all-time monthly high record exceeding the traffic of October, 1929, by 40 per cent and of October, 1941, by 30 per cent. The surplus of freight locomotives—i.e., locomotives stored in serviceable condition—on the date of the latest report, October 1, was 358; and it doubtless declined during the month along with the freight car surplus which reached its minimum of 30,447 on November 1. The car surplus on this latter date included 16,942 box cars, as compared with 19,276 in 1941; 1,826 gondolas, as compared with 6,146; and 5,263 hopper cars, as compared with 5,177. In proportion to total locomotives and cars on line, and considering the wholly unprecedented efficiency with which equipment was repaired and used, these surpluses were so small that a slightly larger traffic would have caused serious shortages.

The Association of American Railroads has asked allocation of materials for 900 locomotives and 80,000 freight cars, and also for 2,100,000 tons of rail, in 1943. The War Production Board last week gave eight-months' authorizations of 250 steam and 36 road Diesels; six-months' authorizations of 100 Diesel switchers and 20,000 freight cars; and first-quarter authorizations of 480,000 tons of rail, 288,000 tons of track accessories, and 330,000 tons of materials for equipment repairs.

It would be easier to estimate the adequacy or inadequacy of these authorizations if we knew what they mean. If the authorizations of rail and materials are only half those to be made for next year, not much reasonable complaint can be made about them, excepting that they come so late. If the locomotive and car program means authorizations of only about 630 locomotives and 40,000 cars for the entire year 1943, then "too little and too late" may be said of it with great positiveness. It is estimated freight traffic will increase 10 to 15 per cent. An increase of 15 per cent in *present* huge traffic would be a very large *absolute* increase—equivalent, in fact, to a 25 per cent increase in the traffic of two years ago and almost equal to the large increase that occurred in 1941.

Those in the government who are deciding how much equipment the railways may have evidently are hopefully relying upon a further large increase of efficiency in its utilization. In August, 1942—latest month for which statistics are available—each freight locomotive, on the average, traveled 106 miles daily as compared with less than 67 in August, 1929; each train had 53.5 cars, as compared with 50; each freight car traveled 49 miles daily, as compared with 36; and each loaded freight car carried 36.2 tons, as compared with 27.5. In consequence in August, 1942, each train rendered 52 per cent more freight service hourly, and each car 70 per cent more service daily, than in August, 1929. The average age of existing equipment is excessive; and the possibilities of increased efficiency in utilizing it having been so largely exhausted, it is gambling with the nation's welfare and safety to continue so drastically restricting new equipment.

Manpower

The fundamental error of the government's procurement program—which is now recognized, at least in principle, and is in process of correction—was the allotment of supplies according to the importance imputed to the *users*, rather than to the *use* to which they were to be put. Thus, an order by the military for cuspidors and ornamental brass would take precedence over a civilian request for copper to be used, say, for transmission lines to carry power into munitions plants. Now, the procurement authorities are trying to determine, in the order of their importance, the "end products" which the total supply of scarce materials will afford—and materials are to be allotted on that basis, rather than on the relative military rank of the agencies which place the orders. Mistakes can be made under this regime, but they are not inevitable—as they were under the old one.

There is reason to doubt that the authorities have learned with respect to manpower what long months of painful experience have taught them regarding materials. It has recently been announced that the armed forces are to be built up to nearly 10,000,000 men. This decision was, seemingly, reached by lending ear only to military tacticians, and not by harkening to those whose duty it is to provide supplies and transport for the armed forces—and still less to those who are concerned with maintaining the civilian economy. Hitler and the Japs cannot be licked by soldiers who remain on the North American continent because there are not enough ships to take them abroad, or munitions and other supplies to keep them effectively in the field.

The Brookings Institution has recently issued a pamphlet (price 25 cents) by Harold W. Metz, entitled "Is There Enough Manpower?", which sets forth the basic facts which control our effective strength in military personnel. We are reminded that this nation cannot expect to maintain as large a ratio in arms as Britain or Germany, because the bulk of their forces operate near home. It is likewise recalled that we have extensive "lend-lease" commitments to England, to Russia, and to various other countries—an obligation which puts a further limitation on the size of the armed force which we can expect to put in the field.

To establish a force of 9.5 million men, or somewhat fewer than the announced goal, the Brookings pamphlet estimates that the work-week will have to be extended to 48 hours, that most non-farm housewives will have to go to work in industry, that children as young as 14 will have to be put at the bench, that production of civilian goods will have to be cut one-third (which will necessitate an increase of 30 billion dollars in taxes, unless wages are proportionately reduced instead).

The railroads cannot do otherwise than go along with whatever policy regarding manpower the political authorities choose to impose—and do the best they can with what they have. Patriotism permits no other course—but patriotism also requires responsible citizens to inform themselves on such a crucial issue as this one so that, if governmental authorities are found to be mismanaging it, they may be brought to book and required to adapt their policies to realities.

Gear Up the Machine for Maximum Performance

In addition to the Mechanical Division, A. A. R., there are several highly specialized railway mechanical associations. Four of these groups survived the depression and have been co-operating with each other in holding their meetings each year at the same time, with a common exhibit. This year, not one of these mechanical associations—not even the Mechanical Division—held conventions. Many railroaders who understand the practical and inspirational value of such meetings, feel that a serious mistake has been made. It is significant that similar organizations in the engineering department have gone steadily ahead with their work and have held unusually productive meetings.

The mechanical department associations, somewhat dismayed it is true, went forward as vigorously as possible with work on their committee reports. These have been completed and will be sent out to the members of the individual associations. They were also published in the November number of the Railway Mechanical Engineer. These four associations—the Car Department Officers, the Locomotive Maintenance Officers, the Master Boiler Makers and the Railway Fuel and Traveling Engineers—are to be congratulated upon the splendid work they have done under such unfavorable conditions.

While the ODT has discouraged the holding of conventions and unnecessary travel, Director Eastman and members of his staff, by attendance at certain types of such meetings, have apparently placed a stamp of approval upon some of them. There are meetings and meetings! A review of those held by the railway supervisory and official groups over the years indicates that most of them have been of a high order, from the standpoint of stimulating better performance and improvements in service. Are not such meetings of even greater value in an emergency, such as that through which we are now passing?

In recent years the mechanical department associations have been meeting at a central point which could easily be reached by a large proportion of their members. The value of getting together to compare notes, when men are striving to the limit to find means of making the maximum use of equipment and facilities, would seem to much more than warrant the time off the job and the extra travel involved. These officers have demonstrated in a very practical and effective way their interest in keeping these associations alive and produc-

tive. Something has, of course, been lost by not holding meetings this year, but the association leaders have done their level best to minimize this. Should they not be encouraged to go forward with their fine work and to plan quite definitely for holding meetings next year? Can the railroads in this emergency afford to overlook an opportunity, such as this, of stimulating their supervisory forces in an educational effort which has demonstrated its value in the past and certainly contains great potentialities?

Accident Problem Increases

Accident prevention is assuming greatly increased importance in the light of our war efforts. Data published by the National Safety Council in its 1942 edition of "Accident Facts" show that equipment for 200,000 soldiers, sailors or marines could have been produced by industry in the 460 million man-days lost owing to accidents in 1941. This was the labor equivalent of 1,500,000 workers who could have built 20 battleships, 100 destroyers, 9,000 bombers and 40,000 tanks. Accidents to railway workers, which in 1941 caused an aggregate disability from temporary and permanent non-fatal injuries of 1,071,892 days, jeopardize the most vital phase of our war effort—the movement of military and war materials.

Lost time through accidents becomes, because of inadequate man-power, an increasingly significant factor in railway transportation; and even their cost in money cannot be disregarded. The Bureau of Transport Economics and Statistics of the Interstate Commerce Commission calculates that, at an estimated rate of $5 per day, lost time due to accidents cost $5,359,460 in 1941. This compares with $3,985,110 in 1940.

On one railroad, whose casualty rate is very low, the average employee death payment in 1941 was $5,484, even though a number of death claims were settled for small amounts because there was no legal liability. In the same year, 20 per cent of employee injuries were sufficiently serious to result in claims costing this railroad an average of $343; and this average was low owing to small settlements for injuries causing employees to lose less than 30 days.

Although the payments of this railroad were low, the figures indicate that the direct cost of employee accident is large. When the cost of training new employees to replace those killed and injured, the value of lost time and retarded production, the indirect cost of investigation and settlement and damage to property are added, the total cost is much greater. And this railroad has an enviable safety record as compared with other railroads the accident costs of which were as much as six times larger last year. Indicative of the indirect costs of accidents is the damage done to property in train accidents, which, in 1941 amounted to $15,667,000 for all railroads.

Railway accidents in 1941 resulted in the deaths of 749 and the injury of 25,265 employees, increases compared with 1940 of 40.53 per cent and 41.12 per cent, respectively. Continuation of the increases in accidents would be nothing less than disastrous and can be prevented only by management securing the best possible co-operation of employees.

Who Is Responsible?

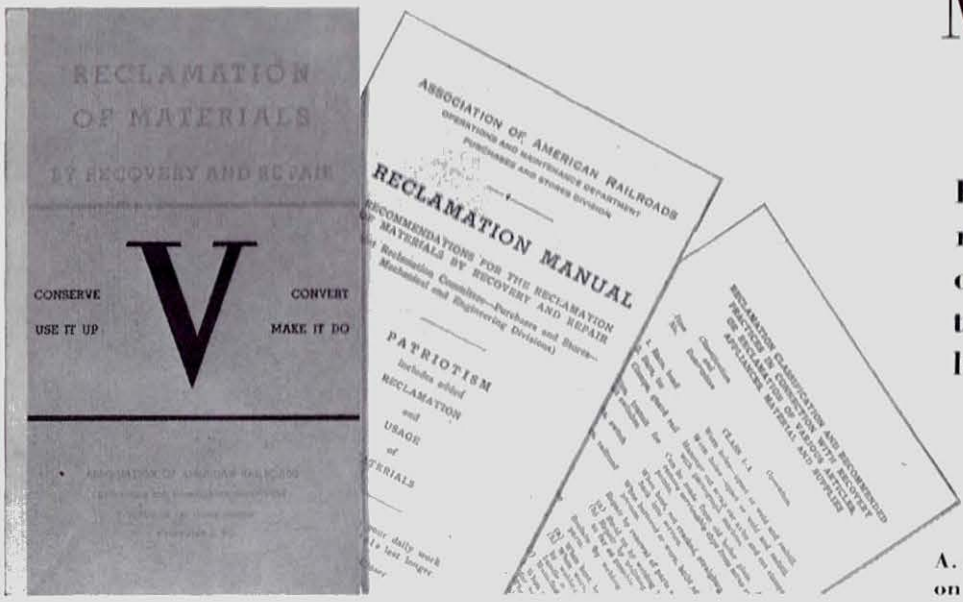
In a certain shop one of the operations involved the cutting of metal on a shearing machine which had been equipped by the railroad with a safety device. This device consisted of a pair of handcuffs and chains so arranged that they made it impossible for the operator to put his hands under the cutting blade. On one occasion, when the foreman was not watching, the operator removed the handcuffs, became careless and lost a hand. The company making these machines now constructs them with a built-in safety device consisting of two buttons so arranged that the operator must press them with both hands simultaneously in order to start the blade. Because the machine will stop if one hand is removed from a button, it is impossible for the operator to place his hand under the cutting edge while it is in motion.

Who was responsible for this accident? It can be argued that the operator was at fault for disobeying rules or not "using his head." It can also be contended that the foreman was to blame for not watching the operator or for not training him properly. One might include the manufacturer as an accessory for not producing a "fool proof" machine. Or one can take the position that every officer of the railroad whose jurisdiction is involved in the purchase, operation and supervision of the machine is responsible.

No safety program can be completely successful until every member of a railroad organization recognizes his responsibility, becomes safety-minded and fully co-operates. In support of this, witness the Union Pacific, the Chicago & North Western, the Chesapeake & Ohio, the Norfolk & Western, the Atlantic Coast Line and other repeat winners in the Railroad Employees National Safety Contest of the National Safety Council, whose safety performances are attributed to the fact that their presidents and other officers recognize their responsibility for deaths and injuries.

A realization of the value of accident prevention and a determination to establish and maintain safe practices are management's responsibility. To these may be added good "housekeeping," safe working conditions, proper equipment and safeguards. About 10 per cent of all accidents are due to unsafe physical conditions which are under control of management. About 88 per cent are the result of unsafe acts of workers; but because many of these are due to improper selection and a lack of training, management can not avoid responsibility for a large portion of them.

Wide-Open Throttle on Reclaiming Materials



A. A. R. Pocket Manual on Reclamation

Experts make new records in putting old material back to work—Pool knowledge in handbook

IN all directions, under the pressure of war and material shortages and with practical assistance from A. A. R. committees in the form of a handbook of approved practice, the railroads are vigorously pursuing reclamation work and piling up new records of performance—despite the fact that the railroads are old hands in recovering material from scrap piles and reconditioning it for further use.

Old Hands at Salvage

Long before this country entered the war and even before the depression, railroads were making records in reclamation—records both in the variety and volume that surprised senators, governors and commissioners who saw railroads from the inside, and that alarmed manufacturers whose trade suffered from the competition. Likewise, the railroads had reclamation plants, reclamation machinery and highly specialized reclamation organizations long before the War Production Board created its Conservation and Salvage divisions. So great, indeed, was the ardor and enterprise with which railway reclamation specialists pursued their work that they were often accused of exceeding the bounds of discretion and economy and were subjected to many restraints as manufacturers made their objections stick; as the depression reduced both the amount of materials needed and the cost at which it could be purchased new; and also as a result of popular clamor for new styles of transportation equipment in place of old equipment.

In the face of unprecedented traffic and a serious shrinkage in the amount of new materials they can obtain the transportation facilities and equipment in repair, the roads have now largely removed restraints on reclamation work and have turned to it as their third line of defense in the war effort—the first being conservation and the second, substitution. Reclamation is not an immobile line of defense under prevailing conditions, however, but a continuously active force, without which the railroads would be severely crippled at the present time.

Opinions differ over definitions of reclamation and repair. Again reclamation and conservation and even substitution are often regarded as distinctions without a difference, owing to differences in organization, viewpoint, facilities and method and the fact that conservation and reclamation usually go hand in hand when old material is involved. In some places, reclamation is directed by maintenance and equipment forces; in other places, by supply forces; and in still others, the work is divided. It is performed in exclusively reclamation plants on some roads and widely distributed on other roads, according to the source and kind of material.

At present, the pressure on every road to increase the nation's supply of scrap for making war materials is a bar to conserving and recovering any material which is not required currently in essential railway work. At the same time, the railroads recognize their obligation to conserve material in the national interest and their primary responsibility to avoid interruptions or breakdown in transportation resulting from a lack of material, as well as from any other cause.

Efforts Intensified

In all parts of the country the effort to prevent good or repairable materials from being thrown away or into scrap piles has been intesified, and hundreds of scrap sorters and mechanics equipped with the widest variety of special and improvised machinery, including forges, annealing furnaces, air and steam hammers, shears and welding torches, are engaged as never before in recovering good material from scrap and repairing it or converting it into shapes and forms for useful work.

In this work, the railroads have necessarily had to consult with each other on approved standards of practice for reclaiming material used on cars and locomotives operating over each other's tracks and to meet safety regulations. With the possible exception of restrictions to assure safety of train operations, however, the competition between railroads in reclamation has been a spur rather than a deterrent to the development of new prac-

tices; and the railroads have had the benefit of each other's experiences and discoveries. Under the stress of material shortages, reclamation forces are reasonably free to perform reclamation work even though the cost exceeds the price of new material.

373 Materials

The work has been further stimulated by a manual, containing the recommendations of a joint committee representing the Purchases and Stores, Mechanical and Engineering divisions of the A. A. R. for the reclamation of materials by recovery and repair. This manual, which is a pocket-size book of 43 pages, lists 373 classes of railway materials which are susceptible to reclamation, with a brief description of the methods of performing the work, together with an extended list of suggestions and recommended practices for the guidance of reclamation forces. The manual is distinguished by a large letter V printed in red on the cover and opens with the words: "PATRIOTISM includes added RECLAMATION and USAGE OF MATERIALS—Be PATRIOTIC in your daily work and MAKE materials last longer—Bring Victory Closer." Articles in each class of railway materials which receive special attention in the manual and the approved practices to be followed in reclaiming each of them are as follows:

Recommended Practices for Recovery and Reclamation of Materials

Class 1-A—Frogs and Switches

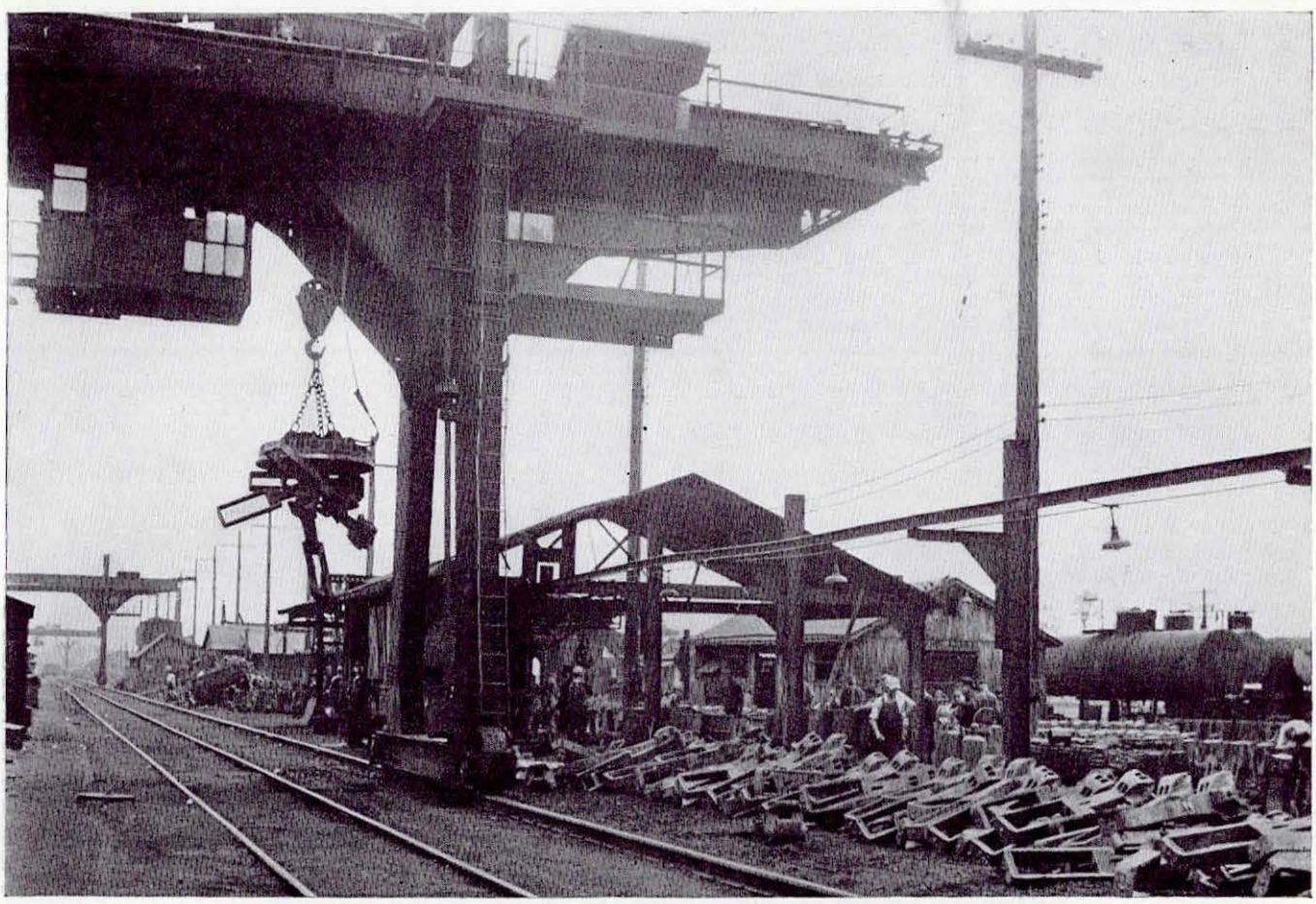
Bars, head—Worn holes, upset or weld and redrill.
Bars, tie—Worn holes, upset or weld and redrill.
Clamps, guard rail—Hammer out scrap car axles and cut clamps with pantograph machine.
Clips, for split switches—Can be made from old boiler plate. Remove serviceable clips from scrap switch points.
Cranks, switch stand—When bent, not cracked, straighten and put back into service.
Crossings, railroad—When battered or worn, build up by welding.
Derails—Repair by renewal of parts and welding.
Frogs, rail—Build up by welding. Repair by utilizing second hand parts as far as possible.
Frogs, manganese—Reclaim by welding and replacement of parts.
Plates, switch slide—When bent, heat and straighten. When worn, upset risers or build up by welding to original height and bundle in sets. Make scrap plate.
Points, switch—When worn, cut down to shorter length for yard use. Swedge to standard height and redress on planer. Build up by welding and dress by emery grinder or seamer.
Rail, guard—Can be made from second hand rail.
Rods, connecting—Worn holes, upset or weld and redrill.
Rods, gage—Manufacture from scrap material.
Rods, head, insulated—Repair and insulate.
Stands, switch—Make standard repairs. Weld tops and bases wherever possible.
Stands, derail target—Make standard repairs.
Stands, ground throw switch—weld worn bearings and machine to size.
Targets, switch stand—Straighten and paint.

Class 1-B—Track Fastenings

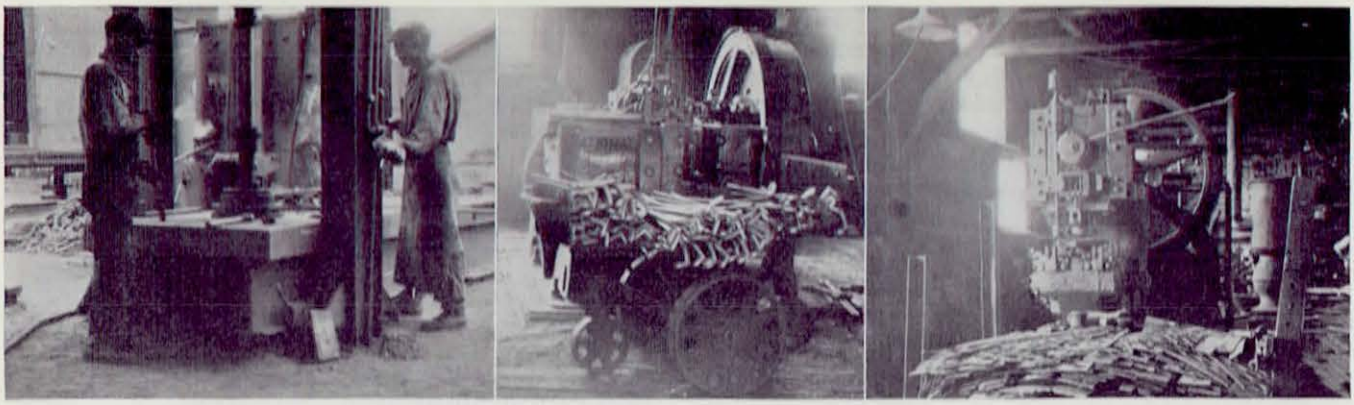
Anchors, rail—Clean and gage for size. Spring types, heat and reform, then heat treat.
Bars, angle—Plane down angle bars to fit lighter rail. Heat and reform. When worn at center, preheat and build up to size with welding.
Bolts, track—If not too badly rusted, use circular steel wire brush to clean threads. Large size bolts can be annealed and rethreaded to small size and heat treated if necessary.
Braces, rail—Heat and straighten.
Joints, continuous—When worn on shoulder or top surface, heat and reshape. Build up by welding process.
Locks, spring nut—Sort and inspect. Reform and temper when necessary.
Plates, tie—If bent, heat and straighten. Repunch for other rail.
Spikes, track—Straighten if not too badly cut under throat.
Springs, rail joint—Reform and retemper.

Class 1-C—Track Tools

Adzes, track—Weld on piece of steel to make 6 in. from end of blade to handle socket.
Bars, claw—redress and straighten. Apply new ends if needed or upset and reform claw end. Make into lining and crow bars.
Bars, lining—Redress and straighten.
Bars, tamping—Redress and straighten. Apply new ends if needed.
Bars, tamping ends—Forge new ends from scrap locomotive tires. Weld with hard surfacing metals.
Bearings, ball—Send to manufacturers all worn ball bearings from track motor cars and other maintenance of way equipment.
Benders, rail—Straighten and renew worn parts.
Bits, round shank track drill—Flatten for use with Rich spindle and chuck.



Reclaiming Old Car Couplers and Yokes by Mass Methods and Loading by Magnet on the Pennsylvania



Reforming Brake Wheels, Forging Grab Irons and Making Washers from Scrap Material

Cars, push—Make from scrap motor car frames, bearings and wheels.
Chisels, track—Change from convex to concave, obtaining necessary length for repairs. Can also be made into track punches, flatters, etc. Redress and sharpen.
Chisels, alloy steel track—Redress, temper and sharpen.
Cutters, weed or scuffle hoes—Make from old track shovel blades.
Cylinders, motor—When oversize, scored or worn, bore out and bush.
Diggers, post hole—Repair, sharpen and rehandle if necessary.
Drills, track—Repair, utilizing old parts and applying new parts when necessary.
Drivers, T iron fence-post—Make from scrap pipe, cap welded on.
Drivers, tie plug—Make handle from scrap pipe and forge head from scrap.
Forks, ballast—Tines are cut from scrap forks and welded to forks having broken tines. Reform when necessary.
Gates, farm—Make from scrap wood.
Gages, track—Apply new wooden centers.
Guards, gear motor car—Make from sheet steel.
Grinders, Keystone Tool—Weld broken parts with acetylene.
Jacks, track—Repair with old parts as far as practicable.
Levels, track—Renew broken glasses, missing plates, etc. Can be made from scrap pipe.
Liners, track—Weld worn parts.
Mauls and sledges, track—Dress and retemper.
Mauls, spike—Dress and retemper. When worn to scrap limit, reforge into coal picks, engineers hammers, etc.
Picks, all kinds—Redress. Apply new ends or convert to other types. Forge ends from scrap material.
Plugs, spark—Repair and blast. Use second hand parts as far as practicable.
Punches, track—Can be made from short spike mauls or track chisels.
Shafts, motor car crank—When worn, turn to standard undersizes 1/64 in., 1/32 in., 3/64 in. and 1/16 in. for use with undersize rods or build up by metal spray.
Shovels and scoops—Utilize serviceable blades on second hand handles. Crack in blade or split in strap on shank can be welded.
Sledges—Make from scrap tires.
Snaths, scythe—Replace worn parts.
Stretchers, wire—General repairs.
Tools—Make from timber bars, draw bars, lining and pinch bars—from scrap coil springs or steel reinforcing bar croppings.
Tongs, rail and tie—Renew rivets when worn. Weld up worn jaws and dress.
Wheels, motor car—Build up worn flange or worn tread by welding. Convert into use for shop trucks by cutting off flanges and bore up for axle fit for cart wheels.
Wrenches, track—Jaws readjusted. Heat treat. When jaw broken, make into wrecking bars.

Class 2-A—Interlockers and Signals

Blades, signal—Straighten and paint.
Poles, metallic signal—Cut down and use for bell posts, relay posts, etc.
Shafts, for signals—Build up worn bearings and machine to original size by metal spray.
Studs, signal—Make from short scrap iron.
Washers for rail joints—Make from discarded fibre shoes and angles.
Switch circuit controller rods—Rebush.
Signal pipe—Cut off, rethread and replug.
Compensators—Repair.

Class 3—Building Material

Covers, drain and manhole—Make from scrap plate steel.
Flashings, gutters, etc.—Make from old galvanized sheets.
Jacks, caboose and bunk car—Make from old galvanized sheets.
Pipe, drain—For drainage between switch stand blocks, make from scrap superheater flues. For roadway and farm crossings, make from old air reservoirs.
Sacks, cement—Clean in power-driven rattler made of second hand lumber and poultry netting or other device.

Class 4—Bridge and Building Lumber

Butts, pile—Split for stock yard or fence posts. Also use for building foundations. Resaw and use for box culverts.
Posts, fence—Make from scrap wood.
Posts, right of way sign—Make from scrap material.
Signs, metallic roadway—Make from old flues, car sides, etc.
Stakes, surveying—Cut from scrap or cull lumber.
Timber, old bridges—Resaw to make standard size lumber.
Wings, cattle-guard—Make from scrap wood.

Class 6—Structural Steel

Stringers, bridge—I beams from dismantled cars.
Turntable parts—Bore and bush.

Class 8—Rail

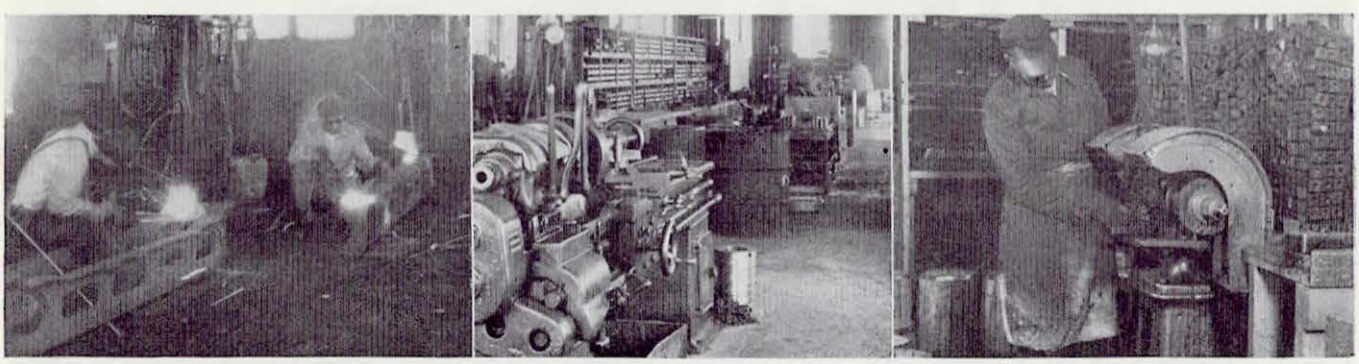
Rails—Battered ends, saw off and redrill. Chipped or split ends, build up by welding and dress.

Class 9—Fuel and Water Material

Buckets, coal chute—Salvage by welding.
Columns and parts—Build up worn parts or cracks by welding.
Floats, copper—Straighten with air. Weld or patch.
Tanks, air or gas—When not fit for original purpose, repair, test and use for storage of liquids.
Draglines, ditchers, etc.—Parts can be reclaimed and new parts made from scrap. Make shafts from locomotive piston rods.
Pivots, track scale—Build up worn pivots by welding.

Class 11—Bolts, Nuts and Washers

Bolts, car—Sort to size, straighten, cut back and rethread.
Bolts, engine—Cut down long lengths to shorter lengths. Turn down sizes.
Bolts, machine—Make from brake beam rods or salvaged round iron and steel.
Bolts, stay—Rattle and hammer into slabs for locomotive forgings and engine bolts.
Bolts, crown stay—Rattle, anneal and convert into shorter lengths.
Nuts—Sort to size, retap and place in stock.
Nuts, grip—Dip in sulphuric acid to cut rust. Rinse in caustic soda bath. Run nut over a revolving brush to clean and check threads.
Pins, dowel and drift—Make from scrap, rods, hand-holds, etc.
Washers—Sort to size and clean in rattler. Make from old sheet metal or scrap flues flattened in punch press.



Welding Castings, Repairing Brass Valves and Reconditioning Rail Anchors in Reclamation Shops

Class 12—Springs

Springs, elliptic—S wrenches can be made from broken leaves.
Springs, coil and elliptic—Retemper and bring to original set.
Springs, coil—Make nail pullers, ripping and stone chisels, bars and tools.
Springs, brake cylinder—Make packing hooks and irons.

Class 13—Flues and Tubes

Flues, scrap—Make rigid keys and pilots.
Units, superheater—Cut off round neck back to straight flue. Make similar piece and weld on old unit.
Headers, superheater—Reclaim by welding.

Class 14—Soft Metals

Lead and babbit—Reclaim separately by welding.
Lead, pig—Make from scrap lead.
Lead, from grinders—Salvage.
Zinc, scrap—Use for acid cutting. Recover from dry cells.
Tubing, copper—Brazed into long lengths.

Class 15—Bar Iron and Steel

Cable, second hand steel—Save for bank protection.
Iron and steel, round—Short pieces of new iron can be made into bolts, brake shoe keys and small forgings.
Flats and rounds—Straightn and use in place of new.
Angles and shapes—Straighten and use small pieces. Use for AB brake brackets, lever brackets, carriers, etc.
Sheet, second hand—Make ashpans, steel car work, patching, car forgings, with pantograph machine, wrist and knuckle pin washers, lateral liners, corner gussets, floor brackets, cover spring shims, nesling pans, cover plates, etc.

Class 17—Forgings and Pressed Steel

Aprons, cab—Make from second hand sheet steel and roughen.
Beams, locomotive—Build up worn ends by welding.
Forgings, miscellaneous—Make from axles, drawbars, etc.
Levers, brake—Make from scrap.
Pins, knuckle and crank—Make from axles. Save all. Machine to smaller size.
Pins, brake—Make from worn drawbar pins.
Rods, piston—Make from locomotive driving axles. When worn to limit, save for shafts for roadway equipment. Turn down for use on lighter power.
Strapping, metal—Straighten and fasten short pieces together.

Class 18—Car Forgings

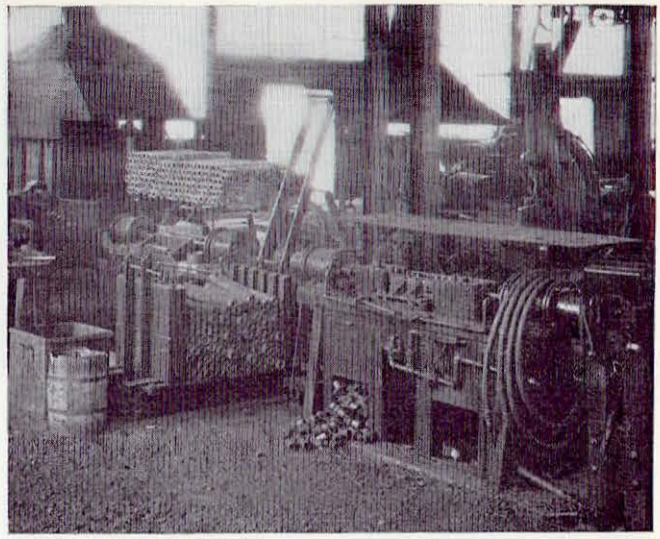
Beams, brake Simplex—Weld trunnion and lathe.
Bolsters, pressed steel—Repair by welding.
Braces, diagonal—Make from scrap tubes and carlines, channels and zees.
Clips, for wood car decking—Make from scrap boiler tubes.
Forgings, car—Make from second hand or scrap material.
Hangers, brake—Bush, plug or upset and drill.
Keys, brake shoe—Straighten cold with die in power hammer.
Levers, brake—Straighten. Upset or replug holes and redrill.
Members, running board—Repair by welding or splicing.
Plates, spring nesting—Heat, straighten. Make from salvaged car sides.
Pins, center—Make from scrap column bolts and also car door operating shafts.
Pins, old knuckle—Heat and straighten.
Planks, spring—When cracked, weld to A.A.R. rules. Make from old channels.
Plates, follower—Cut from scrap forged to proper thickness.
Rivets, coupler—Make from scrap 1¼ in. soft steel.
Jaws, brake rod—Weld on serviceable rods.
Rods, brake—Build up worn holes in jaws and redrill.
Rods, bottom connection—Straighten and repair.
Steps, sill—Make from scrap to A.A.R. rules.
Supports, brake beam—Make from old angles and brake beam channels.
Yokes, coupler—Repair to A.A.R. rules.

Class 19—Locomotive Castings

Bushing, outer rod—Reclaim by welding.
Casings, cylinder head—Straighten. Weld where possible.
Castings, miscellaneous—Repair fractures or build up worn surfaces by welding.
Cocks, cylinder—Build up worn valve. Heat and reseat.
Cups, locomotive grease—Boil in cleaning compound and use circular wire brush.
Grate, sectional—Reclaim by welding.
Heads, driver brake—Build up on face, bore and rebush when worn on trunnion fit.
Heads, piston—Half sole with bronze or other suitable metals.
Rings, cylinder—Turn to size smaller.
Shoes, cross head—Reclaim by welding.
Stacks, locomotive—Weld liner outside at worn spot.

Class 20—Car Castings

Beams, brake—Repair all standard beams, using second hand parts. Weld to A.A.R. rules.
Bearings, side—Repair by welding and replacement of parts.
Bolsters, cast steel—Weld to A.A.R. rules.
Boxes, oil or pedestal—When worn, build up by welding.
Brackets, uncoupling lever—Repair by welding.
Castings, car—Repair fractures or build up worn, surfaces by welding to A.A.R. rules.
Couplers—Straighten bent shanks and close guard arm. Build up worn surfaces by welding to A.A.R. rules. Weld cracks to A.A.R. rules.
Coupler parts, other—Build up worn parts by welding.
Gears, draft—Recover and repair, using new parts if necessary.
Gears, draft parts—Repair by welding to A.A.R. rules.
Hangers, brake—Weld or close worn eyes with forging press. Weld.
Hangers, car door—Build up worn surface. Weld main castings when broken.
Heads, Simplex brake—Weld up toes and dress. Bore out and bush trunnion fit.
Keys, coupler—When worn swedge out to width.
Knuckles, coupler—Build up worn surface by welding to A.A.R. rules.
Levers, uncoupling—If bent, heat and straighten and reform.
Lids, oil box—Reshape pressed steel design. Weld bolt holes. Apply new spring and bolt.
Pedestals, truck engine, tender and car—Repair by welding.



Air Brake Hose Reclamation

Pins for journal box covers—Make from scrap machine bolts or rods. Slot ends in milling machine.
Plates, center—Weld and straighten to A.A.R. rules.
Plates, side bearing wear—Make from scrap spring steel.
Roofing, old car—Reshape and use as roofs. Solder small holes.
Shoes, brake with steel backs—If sufficient thickness, weld on broken eye.
Sides, truck cast steel—Weld and straighten to A.A.R. rules.
Wedges, journal bearing—Reform or grind to proper contour.
Wheels, brake hand—Straighten.

Class 21—Brass Castings

Bearings, journal—Reline.
Brass, driving box crown—Build up by welding.
Bushings, rod—Turn to fit larger pins or smaller eyes.

Class 22—Air Brake Material

Cocks—Repair, rebush when necessary and regrind.
Cylinders, air brake—Weld lugs, re-assemble parts and make complete by applying new cups and gaskets.
Gaskets, air pump, copper—Anneal and reform.
Gaskets, triple valve and cylinder—Reclaim with wire brush, castor oil, tallow and beeswax or similar process. Boil for 3 hr. in 1 lb. caustic soda to 10 gal. water. Boil in clear water ½ hr.
Glasses, air pump lubricator—Clean and repolish.
Heads, air pump piston—Build up by welding and machining.
Reservoirs, air—Convert to gas storage tanks for section tool houses.
Pistons, pump—Build up with metal spray and turn to size.
Retainers, disc type—Build up worn lugs by welding.
Valves, retaining—Convert to new type.

Class 23—Appliances for Locomotives

Axles, booster—Build up with metal spray when worn.
Balls, stoker conveyor—When worn, cut out and weld patch in opening.
Bells, locomotive—When cracked, repair by welding.
Boxes, sand hose strainer—Build up stripped threads by welding and re-thread.
Caps, sand blast—Fill worn holes by welding process.
Cocks, blow-off—Reseat.
Discs, lubricator—Clean and repolish.
Glasses, water gage—Clean and regrind.
Feed water heater—Weld cracks in bodies.
Heads, feed water pump—Build up by welding and machine.
Joints, ball for booster—Build up and machine.
Joints, flexible ball—Reclaim by welding and machining.
Regulators, steam—General repairs and adjustment.
Rings, Universal—Sort by sizes, checking with snap gages and place in sets for next smaller size.
Stoker material—Reclaim or repair.
Stoker, elevator housings—When worn, weld in steel bushing.
Valves, blower—Reseat.
Valves, boiler check—Reclaim by welding.

Class 24—Passenger Car Material

Canvas—Patch with odd pieces and cement. Use for making canvas buffing wheels, aprons, steam pipe covering, dust guards, lining for refrigerator car doors, protection pieces under roof caps on metal car roofs and motor car covers.
Carpets, old—Use for chair pads, patching or rugs.
Couplings, steam—Bore and bush and renew gaskets.
Curtains, vestibule—Make engine and caboose cushions.
Gaskets, steam heat hose—Return to manufacturer.
Hair, second hand—Clean and reuse in cushions and seats.
Linoleum, old—Use for patching.
Moss, second hand—Clean and use in cushions and seats.
Plush, old—Use for patching.
Springs, seat, old—Use for cushions, seats, etc.
Tail gates, passenger car—Repair.
Valves, heat, passenger car—Build up stripped threads with cast iron and thread.

Class 25—Electrical Material

Bearings, ball—Regrind.
Shafts, motor and generator—Build up with metal spray.
Electric headlight parts—Recover and repair.
Bearings, axle for traction, motors—Build up by welding.
Heads, cylinder for Diesel—Reclaim by welding.

Class 27—Shop Fuel

Sacks, charcoal—Reclaim.

Class 28—Foundry Supplies

Brick, arch—Mould into new bricks or in plastic form for lining furnaces.
Brick, fire—Use for patching blacksmith shop and as fire clay.
Crucibles, old—Save and report for sale.

Class 29—Wheels

Axles, scrap—Upset and use for smaller size. Build up worn collars by welding. Work into piston rods, crank pins, knuckles joint pins, follower plates, etc.
Axles, locomotive—Use for smaller sizes and in place of billets.
Axles, hollow—Split with torch and forge into billets for forgings from which to cut shapes on machine. Forge into main rod floating bushings.
Tires, locomotives—Forge into billets. Forge into bar stock for hand chisels, resteeling picks, shear blades, key steel, etc.
Wheels, cast iron—Grind to standard dimensions.
Wheels, rolled steel—Turn to standard dimensions.

Class 30—Locomotive and Car Lumber

Blocking, bracing and dunnage—Make from scrap lumber and recover at freight terminals.
Gates, coal end for locomotives—Make from scrap boiler tubes, round bar iron and steel sheet.
Lumber, old car—Use for inside roofing or temporary coal doors, grain doors, temporary buildings, cement forms and walks.

Class 32—Locomotive Boilers and Fire Boxes

Boilers—Save all sheets from scrap. Straighten and use for cutting knuckle and wrist pin washers, lateral liners, center plate shims, etc.
Pilots, engine—Make from scrap flues, steel angles and arch bars.
Tanks—Save all sheets for patching or storage tanks.

Class 36-A—Train and Station Supplies

Axles, warehouse truck—Make from scrap motor car axles and passenger brake beam bodies.
Bases, smoke jack—Make from old car roofing.
Barrels, fire—Make from drums by removing heads, treating inside with brine resisting paint or coating.
Boxes, engineers' tool—Make from car roofing.
Boxes, first-aid—Make from scrap car roofing.
Boxes, fuses and torpedo—Straighten and weld. Make from scrap roofing.
Boxes, passenger step—Straighten and weld.
Boards, freight transfer—Make from scrap sheet.
Buckets—Make from 5 gal. paint cans.
Bunks, steel—Straighten, weld and repair springs.
Burners, lamp and lantern—Clean in caustic soda solution.
Cans, paint—Clean and use for shipping containers.
Cans, refuse—Make from car roofing or carbide and paint cans.
Carts, mail, fire and shop—Use second hand material.
Catchers, mail—Repair.
Chains, train—Remove worn parts and add new welded links.
Containers, first-aid for cabs—Make from car roofing.
Containers, journal packing—Make from car roofing.
Covers, fire barrel—Make from car roofing.
Curtains, caboose—Renovate and re-use. Patch when worn.
Extinguishers, fire—Repair and test. Recharge.
Forgings, baggage truck—Make from steel salvaged from scrap.
Founts, lamp and lantern—Boil in cleaning solution and repair.
Furniture, office—Repair and refinish.
Globes, lantern—Cut down size to fit No. 100 lantern.
Holders, broom—Make from scrap flues.
Kegs, water—Re-cooper and paint inside with hot parafine.
Lamps, various—Repair.
Lanterns, hand—Repair and paint with silver grey enamel.
Mowers, lawn—Repair and regrind.
Oilers, journal—Repair by straightening and soldering or welding.
Pans, ash for stoves—Make from car roofing.
Picks, coal—Make from coupler knuckle pins and mauls.
Pipe, stove—Make from metal roofing and superheater tubes.
Poles, ice and pike—Resharpen and rehandle.
Replacers, car—Build up to standard height by welding.
Shovels, sand house—Make from old short handle firemen's scoops.
Signs, stop—Make from old metal roofing.
Skids, lift truck—Make from tubes, angles, channels and sheets.
Spurs, car mover—Make from scrap tool steel.
Staffs, flag—Make from mill waste.
Stoves—Weld old parts.
Tinware—Powder or carbide cans make dope buckets or waste paper baskets. Onetime containers make good fire barrels, shipping barrels, etc. Make covers for fire barrels from metal car roofing. Make unit piling trays, bin tags, label holders, etc., from car roofing.
Trailers, power truck—Make from scrap angles, dumps and sides of dismantled cars.
Trucks, warehouse—Repair.
Wheels, baggage trucks—Make from steel salvaged from scrap.
Wheelbarrows—Repair.
Wringers, mop—Repair.

Class 36-B—Grain Doors

Doors, grain—Make from scrap lumber.
Doors, coal—Make from old grain doors or old lumber.

Class 37—Oil House Material

Cloth, wiping rags—Wash.
Compound, journal—Clean by scraping and reshape. Remelt, refine and mold or reform for rod cup grease.
Compound, hot box—Make from discarded driving journal compound.
Oil, crank case—Reclaim for original use.
Oil, cutting—Reclaim for original use.
Oil, lubricating—Reclaim by filtering.
Oil, sludge—Use for firing engines, greasing central plants, lubricating gears, front end pain for rust protection, road oil, etc.
Packing, journal—Renovate and reissue. Salvage babbit from all packing.
Waste, cotton—Wash.

Class 42—Pipe and Fittings

Fittings, pipe—Remove serviceable fittings from old pipe and protect with oil.
Joints, flexible—Renew worn parts. Regrind when necessary.
Nipples, pipe—Cut from second hand pipe.
Pipe, wrought iron or steel—Thread serviceable pieces on each end and test to 100 lb.
Traps, steam—Repair.
Unions, ground joint—Pick out various parts and re-assemble.
Valves, globe and angle—Repair.

Class 45-A—Hardware

Blocks, tackle—Repair with new or reclaimed parts.
Checks, door—Repair with old and new parts.
Chisels, pneumatic—Make from scrap track chisels.
Cloth, copper—Cut to smaller sizes.
Goggles, all kinds—Sterilize and renew head bands, cups and lenses if necessary.
Hinges, stockyard gate—Make from scrap. Use discarded refrigerator door hinges.
Rods, welding—Scrap short ends and firebox clippings can be used on all work. Save short ends.
Rods, cast iron—Use old cylinder packing rings, etc.

Class 45-B—Small Tools

Air tools, parts—Restore worn parts to size by chrome plating.
Air hammer barrels—Standard repairs when barrels worn, lap to standard oversize and equip with standard oversize pistons.
Air hammers—Send to manufacturer to have worn barrels closed in and rebored to standard size, long stroke.
Band saws—Weld with silver solder and resharpen.
Brushes—Reclaim with suitable cleaner.
Chisels, hand—Reforge and temper. Make from locomotive tires.
Cutters, high speed—Recut by manufacturers to smaller sizes.
Files, over 6 in.—Save for recutting.
Hammers, engineers—Make out of locomotive tire steel.
Jacks, car and locomotive—Repair.
Jacks, various—Repair with new or reclaimed parts.
Locks, switch and pad—Clean and repair.
Punches, for air tools—Make from scrap track chisels.
Regulators, gas—Clean and replace parts.
Reamers, high speed—Recut by manufacturers to smaller sizes or reclaim by counterbore shank and welding cutter end to shank.
Respirators—Reclaim and repair.
Tools, cutting—Weld high speed steel on carbon steel for cutting edge.
Tools, cutting high speed—Forge to smaller size to fit Armstrong tool holders.
Torch nozzles and tips—Clean, solder and replace parts. If holes are worn, close nozzle by swedging and redrill.
Wrenches, alligator—Anneal, recut teeth and retemper.
Wrenches, pipe—Anneal, recut teeth and jaws and retemper.
Wrenches, screw—Repair using all old parts as far as possible.

Class 46—Rubber and Leather

Belting—Make into gaskets or hand holds for rolling wheels.
Belting, leather—Save and rework.
Boots, rubber—Repair.
Couplings, air brake hose—When gasket groove leaks, close by pressure.
Couplings, steam heat hose—Weld worn lugs and mill or file to gage.
Couplings, steam and dynamo—When worn, build up by welding.
Felt, refrigerator car—Save for repair work.
Gaskets, steam cylinder—Make from scrap copper wire.
Gaskets, steam hose—Unless broken or chipped, reface and apply gasket to height.
Gaskets, tank hose—Make from scrap air brake hose or from wood.
Gloves, rubber (except lineman's)—Vulcanize.
Hose, air, steam and signal—Strip and replace tubes and parts.
Hose, tank—Vulcanize.
Hose, old—Make into baggage mats.
Hose, air brake and signal—Splice.
Hose, fire—Save for flushing.
Hose, water, steam and air—Cut off and repair by applying nipple.
Lagging, boiler—Break or grind up, form into slabs or re-use for mortar shape.
Nipples, hose—Clean with wire brush and chase threads.

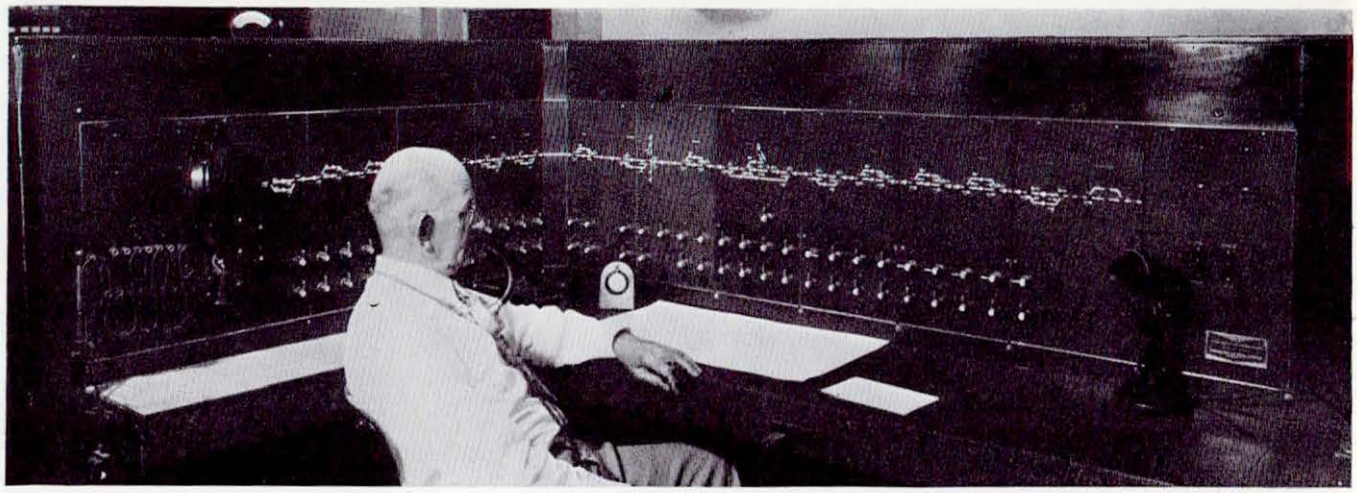
Class 47—Glass, Drugs and Chemicals

Paint, old—Scrapings from barrels and other containers.
Refuse, carbide—Use a hydrated lime in making whitewash.
Brushes, paint—Reclaim with suitable cleaner.

Class 48—Stationery and Printing

Pads, scratch—Make from obsolete forms.

MOTORS FILLED WITH FOOD.—A letter containing 72 signatures of employees of a shipyard in the Isle of Wight, off the coast of England, was received recently by the Hall-Scott Motor Car Company, a subsidiary of the American Car & Foundry Co., in California. The letter was "a grateful acknowledgment of the fine spirit of comradeship and brotherly kindness" which prompted the Hall-Scott Motor Car Company to include in its shipment of engines foodstuffs needed by the islanders. The company, realizing the lack of necessary food supplies, inaugurated the practice last April of enclosing a box of canned food with each engine shipped to foreign parts from the factory. The box is fitted into an empty space with the crated motor, so that no extra shipping space is used. Each box is stenciled with a message from the sender and requests that a fair distribution be made of the contents. To date over 300 boxes have gone out and responses are just beginning to filter through.



The One C. T. C. Machine at Marshall Controls the Entire 89.7 Miles of Single Track.

C.T.C. Solves War Traffic Problem On the Texas & Pacific

Installations on 89.7 miles of single track absorbs increase over normal of 32 to 60 trains daily, without delays

IN August, the Texas & Pacific completed the installation of centralized traffic control on 89.7 miles of single track main line between Texarkana, Tex., and Longview. In 1936, centralized traffic control was installed on 15 miles between Texarkana and Springdale, while in 1938 these facilities were installed on 32 miles between Springdale and Atlanta, and between Marshall and Longview, Tex. By filling the gap of 42.7 miles between Atlanta and Marshall in 1942, the centralized traffic control system now extends continuously between Texarkana and Longview.

Increases in Traffic

In 1938, the traffic on the 67-mile section between Texarkana and Marshall averaged about 24 trains, and on the 23-mile section between Marshall and Longview about 32 trains daily. During recent months, the traffic has ranged from 45 to 50 trains daily on the Texarkana-Marshall section, and from 55 to 60 trains daily on the Marshall-Longview section. Furthermore, a large percentage of the trains are bunched during the morning and late afternoon, thereby increasing the difficulty.

Previously, passenger trains comprised 10 to 12 cars. Now they normally include from 18 to 20, and in some instances up to 28 cars. The maximum passenger train speed is 70 m. p. h. The rating of freight locomotives is 4,000 tons in either direction between Texarkana and Marshall, and 4,500 tons between Marshall and Longview. Each train consists of 65 to 70 loaded cars. The maximum permissible speed of freight trains is 60 m. p. h.

At Texarkana, the Texas & Pacific connects with the Missouri Pacific and other railroads, and it extends from that point west through Marshall and Longview to Dallas and Ft. Worth and on to El Paso. From Marshall, another Texas & Pacific line extends east 350 miles to New Orleans, La., while at Longview, 23 miles west of Marshall, connection is made with the International-Great Northern which extends southwest to San Antonio, Houston and other points on the Gulf of Mexico.

Reasons for Heavy Traffic

The operating division extends from Texarkana west 138 miles to Mineola, which is 71.4 miles west of Marshall. Previously, when train movements were authorized by time tables and train orders, numerous delays were incurred because the exact time when trains would be ready to depart could not be determined in advance. Westbound freight trains may be held for connections which require a further and indefinite time for completing the switching and making up the trains for departure. With westbound passenger trains, the time required at Texarkana to work the mail and express varied widely. Certain of these passengers trains, such as the "Sunshine Special," are operated in sections, the West Texas section running through between Texarkana and El Paso, whereas the South Texas section is handled as a separate train between Texarkana and Longview. One passenger train is operated through in each direction daily between El Paso and New Orleans via Marshall. Other passenger trains set out or pick up cars at Longview. Trains are split and consolidated at Marshall to provide additional through passenger service between New Orleans and El Paso, and the time required for trains to do their work at Marshall and Longview can not be determined ahead of time. As a result, when train movements were authorized by time table and train

Station Entering Signals Are Equipped With Three Operative Units

orders, serious delays were incurred by trains waiting for meets or passes with other trains which did not depart from Texarkana, Marshall or Longview at the time anticipated when the train orders had been issued.

Facing these conditions, the railway decided that train delays could be decreased and the capacity of this important line increased by installing centralized traffic control, including signals for authorizing train movements without the use of train orders, and also including power switch machines as a part of the C. T. C. system so that trains could enter and depart from the passing tracks without stopping to operate hand-throw switch stands. The semi-automatic signals for authorizing train movements, as well as the power switches, are controlled from a C. T. C. machine in the office at Marshall.

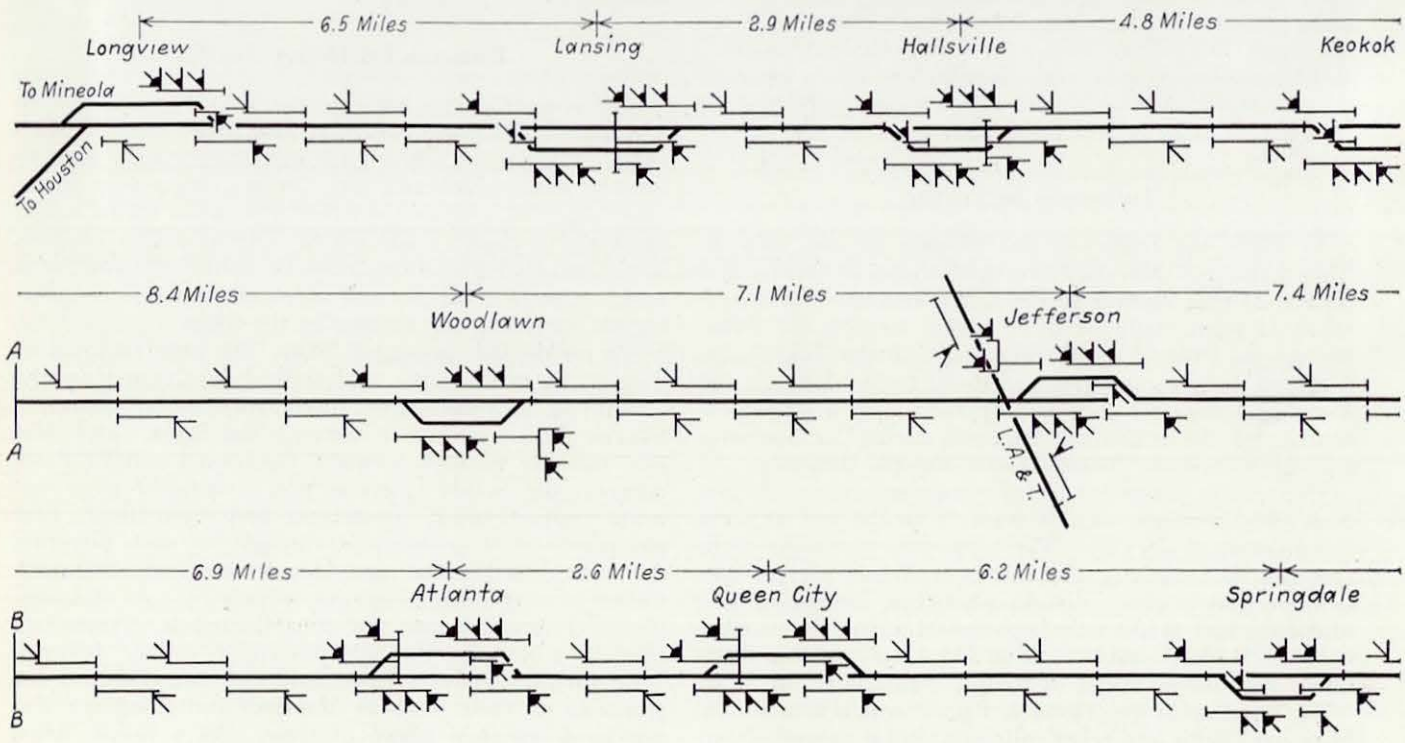
Track Layouts

As shown on the diagram, there are 14 passing tracks between Texarkana and Longview. Electric power switch machines are provided at the junction switch at Marshall, at the east switch at Longview, and at all the passing tracks except at National, which latter track is in reality used as a section of second main track, while the switch at the east end is included in an interlocking at a crossing with the St. Louis-Southwestern, and the switch at the west end is equipped with a spring and buffer mechanism, so that westward trains from the siding can trail out through the turnout without stopping. This west switch is normally lined for eastward trains to hold the main line.

At each end of each passing track, and also at the junction switch in Marshall, a complete arrangement of semi-automatic signals is provided to direct trains to (1) proceed on the main line, (2) enter the passing track, (3) proceed into occupied track (by call-on signals), or (4) depart from the passing track.

Successful Train Operation

The objectives which have been attained by this centralized traffic control installation have been not only to accept trains when they are ready to depart at Texarkana, Marshall and Longview, thus minimizing departure delays, but also to keep the trains moving when on the line. In view of the fact that the traffic now ranges from 45 to 60 trains, as compared with 24 to 30 trains previously, the benefits effected by the C. T. C. are evident not so much from reductions in the over-all time of trains, as in the fact that all trains, even with the increased traffic and the complications of peak periods, are accepted and move over the line without an increase in the average over-all time. If scheduled trains are late, some time can frequently be made up, and extra



Track and Signal Diagram of the Centralized Traffic

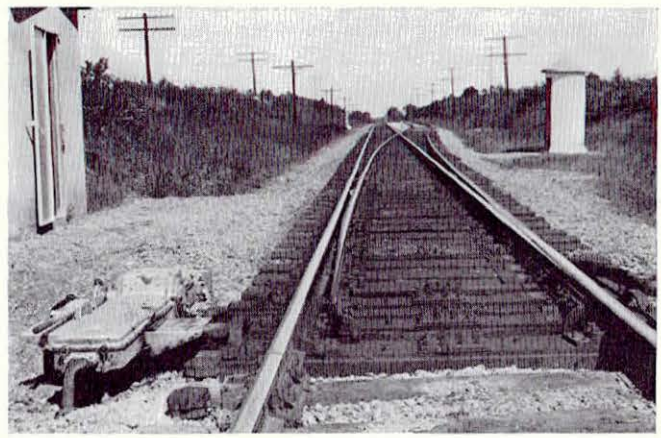
freight trains are frequently operated over the territory in less than the carded time for scheduled freight trains. In certain instances the time of trains has been reduced. For example, a turn-around freight run from Texarkana to Longview and return to Marshall is now being completed in an average of eight hours, whereas this run previously required approached 16 hours.

The reasons for this successful operation with C. T. C. are evident from a study of the records of train movements. The maximum permissible speed of trains has not been increased, and the terminal-to-terminal time has been reduced by keeping the trains in motion a greater percentage of the time while en route. This is possible by the fact that the time lost by trains when on passing tracks is minimized, and the further fact that the number of times that a train enters passing tracks on a given trip has been reduced. Previously, train orders to establish meets had to be issued ahead of time, and if other trains were delayed when departing from Texarkana, Marshall or Longview, the trains which were on the passing tracks had to be wait. If the delay at a given passing track was too long, a train could not move over to another passing track for meets with other trains, as previously planned by the dispatcher.

With the C. T. C., however, the man in charge of the control machine is informed by the track-occupancy lamps of the location of and progress being made by each train. If the departure of a train is postponed, the other trains on the line can be advanced, thus permitting meets or passes to be made on close timing. In numerous instances, trains are brought into Texarkana or Longview prior to the departure of other trains which they would otherwise have had to meet at passing tracks on the line if the operation had been by train orders.

The Other Part of Time Saving

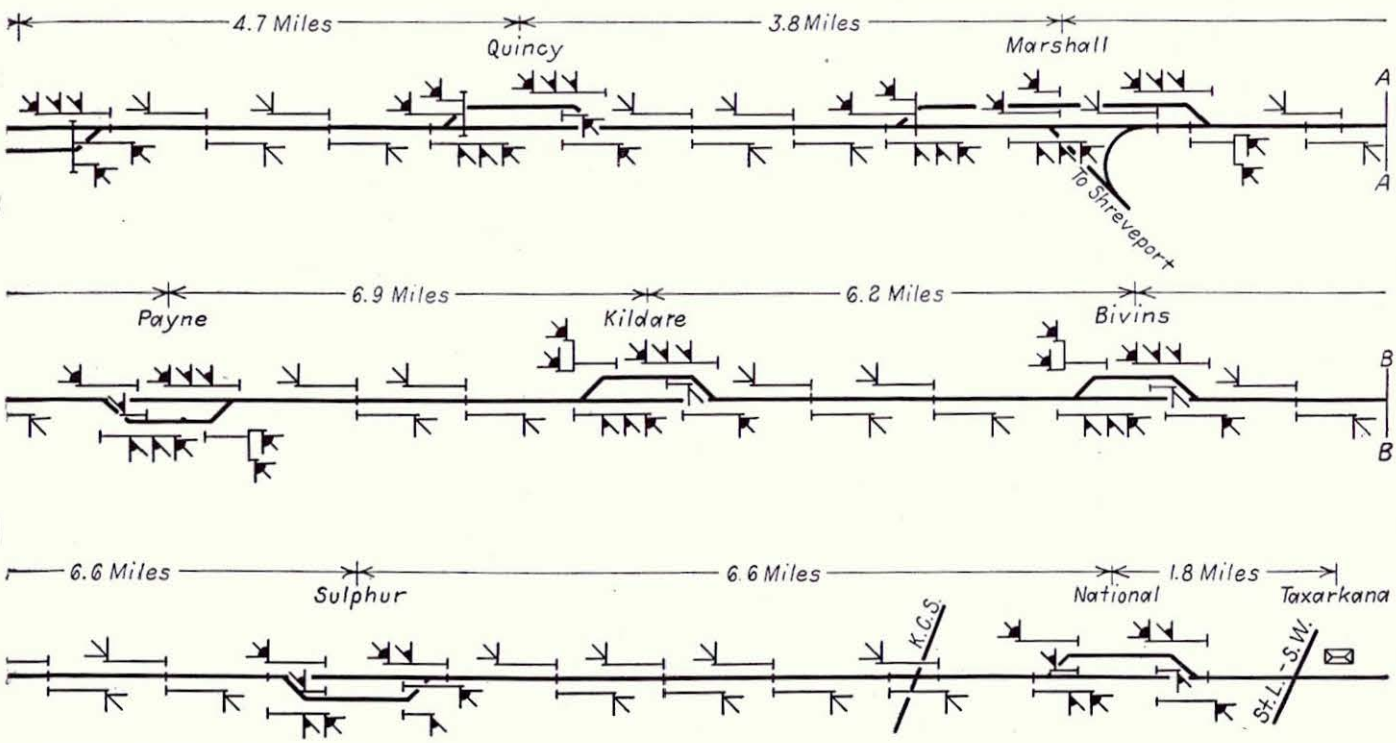
In addition to authorizing trains to move promptly, this C. T. C. installation was designed to save every second possible when trains are entering or departing



Switch Machines Opposite Normally Closed Point

from passing tracks. The passing tracks are constructed and maintained in condition for train speeds of 30 m. p. h. while the turnouts are No. 16, which permit movements through them at 30 m. p. h., enabling trains pulling out of a passing track to accelerate to maximum main line speed promptly.

A point of interest on this Texas & Pacific project is the provision of special signaling to authorize trains to pull into passing tracks at approximately 30 m. p. h. A conventional practice on many other C. T. C. projects is to display an aspect of red over yellow on a station-entering signal, with the switch reversed, to direct a train to enter the passing track. Such an aspect includes no track circuit control on the passing track, and the speed of the train must, therefore, be reduced so that it is prepared to stop short of a train or obstruction on the passing track. If the passing tracks are curved or the view is otherwise obstructed, the speed may be not more than 15 m. p. h., with safety. On this T. & P. installation, however, track circuit control is provided on the passing tracks, and a third signal unit is provided on the masts of the station-entering signals. If



Control Territory Between Texarkana and Longview Junction

a passing track is unoccupied and the switch is reversed for an approaching train to enter, the station-entering signal can be controlled to display an aspect of red over yellow over red. With this information, the engineman can approach and pass through the No. 16 turnout at 30 m. p. h., preparing to stop his train on the passing track. The passing track at Keokuk has a capacity of 99 cars, and the other passing tracks have capacities ranging from 100 to 140 cars. Ordinarily, freight trains handle not more than 80 to 90 cars, so that distance is available for stopping from 30 m. p. h. after the rear end has passed through the turnout.

For these reasons, the provision of the special aspect, indicating that a train is to enter a passing track that is unoccupied, enables about 7 seconds to be saved when an 80-car train is making such a move, and about 9 seconds for a 100-car train, these figures being based on the difference in time at 30 m. p. h. as compared with 15 m. p. h. As a matter of fact, the time saving is probably more in many instances because, with the new aspect, enginemen pull into passing tracks promptly without hesitation. If the passing track is occupied and the switch is reversed for a train to enter, the station-entering signal can be controlled to display an aspect of red over red over yellow, which indicates that the train is to enter at low speed prepared to stop short of another train or obstruction. With the switch in the normal position, this same aspect is displayed to direct an approaching train at slow speed to close up on a train occupying a section of main track.

Station to Station Time Reduction

The use of No. 16 turnouts, the power switch machines and the signals, as explained above, constitute a combination which saves about 15 to 17 minutes, as compared with the use of hand-throw switches, when a train is to move from a passing track onto the main line and into another passing track. The fact that a train can pull out of a passing track without stopping to permit a hand-operated switch to be thrown saves about 8 minutes. The provisions for accelerating to 30 m. p. h. by the time the rear end of a train leaves a passing track saves some time. The elimination of the train stop when entering a passing track, and the signal which permits trains to enter at 30 m. p. h. instead of at a lower speed, save about 6 to 8 minutes. Thus the time saved when departing from and entering passing tracks reduces by about 15 minutes the time required for a train to advance from one passing track to another station and take siding.

This fact in numerous instances permits trains to be advanced one or more stations for a meet, whereas, if no power switches were in service, the move could not be made in the time available.

Some of the passing track switches are so located that if trains are required to stop when entering, they cannot start again with full tonnage. For this reason, prior to the installation of C. T. C., the passing track at Kildare could not be used by westbound trains unless they doubled in, which required so much time that this siding was used by such trains only in rare instances. Thus the installation of C. T. C. practically added one passing track, so far as the operation of eastbound freight trains is concerned.

C. T. C. Control Machine

The centralized traffic control machine, located in the office at Marshall, is controlled by an operator who works under the direction of the dispatcher at Ft. Worth. The codes for the control of the semi-automatic signals and power switches are sent out from the office to the field stations, and the indications are returned to the office by the General Railway Signal Company Type-F Class-M coded system, using three line wires, by means of which the controls can be sent out and the indications received simultaneously. The code equipment and line circuit for the Texarkana-Marshall section are independent of the code equipment and line for the Longview-Marshall section so that coding can be in operation simultaneously on the two separate sections.

One Lever Controls Each Power Switch Machine

One lever is provided for the control of each of the 32 power switch machines, and one switch lever is used in connection with the spring switch at the west end at National. One signal lever controls the semi-automatic signals at each of the 32 ends of passing tracks, and one lever controls the signals at the junction in Marshall. At Jefferson, where a single track line of the Louisiana & Arkansas crosses the Texas & Pacific, the control of the signals for train movements over the crossing is included as a part of the C. T. C. system, two levers being provided for this purpose. Lamps in the face of the levers indicate the position of the switches and repeat the aspects displayed by the signals controlled by the respective levers.

The illuminated track and signal diagram is provided with lamps which are lighted when the corresponding sections of track are occupied by trains, all portions of the main line, as well as the passing tracks, being included in this arrangement so that the operator knows the locations of all trains on the territory. In most instances, the section of main track between station layouts is divided into two indication sections so that the operator is informed of the progress being made by a train in such sections.

The machine as a whole is made up of sections that are each 10 in. wide, the advantage of this form of construction being that it permitted additional sections to be added to the previous sections as required when the Atlanta-Marshall section was brought into service in August, 1924.

In order that the operator may reach all the levers without leaving his chair, four of the 10-in. sections at the left are set at right angles to the remainder of the machine sections.

Power Switches and Signals

The power switch machines are the Model-5D with dual control. The motors are of the low-voltage type, and, with 20 volts at the motor, the machines will operate a switch in 11 to 13 seconds. Color-light automatic block signaling was installed between Marshall and Longview in 1926, and between Texarkana and Marshall in 1927. When adding the centralized traffic control, the high signals at the ends of the passing tracks were relocated as required.

Additional signal units were added on the station-entering signals, and new color-light leave-siding dwarf signals were installed. Where necessary, the intermediate automatic signals were relocated so that the minimum spacing is 11,500 ft.

This centralized traffic control project was planned and installed by the signal forces of the Texas & Pacific, under the direction of E. P. Weatherby, signal engineer.

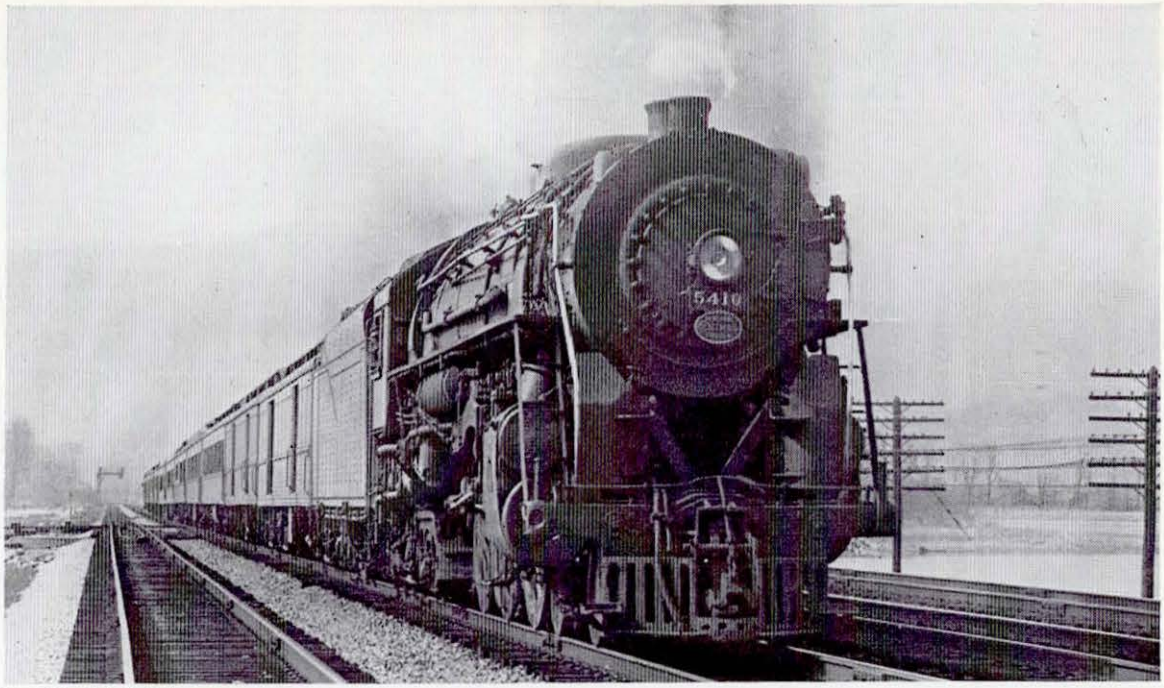


Photo New York Central

How to Obtain More Intensive Use of Motive Power

Symposium at Western Railway Club brings out practical suggestions for greater locomotive serviceability

THE Western Railway Club concentrated its attention on the important subject of utilization of locomotives at its November 16 meeting in Chicago, and brought to its members the combined thoughts of a number of railway officers who are experts in getting maximum results from locomotives and thus making a real contribution to national progress when measured in terms of civilian traffic and war goods moved fast and safely to destination.

The principal address was made by J. M. Nicholson, assistant to the operating vice-president, Atchison, Topeka & Santa Fe, who described in more or less detail how locomotive availability and utilization can be increased and said that still further improvements along this line will help to offset the lack of new power. J. E. Bjorkolm, superintendent of motive power, Chicago, Milwaukee, St. Paul & Pacific, followed Mr. Nicholson with extemporaneous discussion indicating that more intensive use of locomotives must be secured than ever before due to the present emergency and urging the best thought and co-operative effort of both operating and mechanical department officers to secure this result.

H. P. Allstrand, chief mechanical officer, Chicago & North Western, emphasized the necessity for long locomotive runs and attendant high figures of daily and monthly mileage which, however, are limited by operating conditions, maximum distance between main line terminals and the percentage of short, branch-line service which must be supplied on individual carriers. Mr. Allstrand referred to the favorable effect of roller bearings and improved water conditions. He said that the North Western is now handling approximately the same freight and passenger traffic as in 1927 with 42 per cent fewer locomotives.

H. H. Urbach, mechanical assistant to the executive vice-president, Chicago, Burlington & Quincy, said that the present highly-intensive use of railway motive power has been made possible largely by improvements in mechanical details which give greatly increased mileage between shoppings and permit operating locomotives over entire subdivisions without intermediate stops. Mr. Urbach referred to the necessity of having improved servicing facilities at intermediate terminals which may be so arranged as to reduce the time for taking fuel and water, cleaning the fire and ash pan to about one-third of that formerly required. He said that on the Burlington, where approximately 3,000,000 locomotive miles are made each month, 23 per cent of this mileage is produced by a fleet of modern locomotives which represent only 7 per cent of the total ownership. In closing his remarks, Mr. Urbach issued the warning note that, in spite of present intensive locomotive use, railroads must have a substantial amount of new power in 1943 in order to handle the probable increase in traffic successfully.

W. I. Cantley, mechanical engineer, A. A. R. Mechanical Division, called attention to the important part which research has played in increasing the reliability and potential serviceability of motive power and outlined in

general what has been accomplished, for example, in better locomotive counterbalancing, developing more reliable crank-pin and axle designs and conserving metals vital to the war effort. After reading of the prepared discussions, the meeting was thrown open to general discussion and A. A. Raymond, superintendent fuel and locomotive performance, New York Central, pointed out the effect of delays both on the road and at enginehouses in reducing the number of cars delivered to destination per locomotive hour. He said that responsibility for analyzing these delays and taking the necessary steps to minimize them must be concentrated in order to effect desired improvements. The following is an abstract of Mr. Nicholson's paper:

Intensive Study of Utilization

"The utilization of locomotives is a phase of railroad operation that has been studied consistently for a considerable period of years. It has grown to major importance in the last generation, and is now a very vital subject in handling the transportation being offered to the American railroads.

"In the period 1918 to 1920 the practice was inaugurated of extending locomotive runs over more than one engine crew district, giving the locomotive servicing attention at the intermediate point, and either running it through the terminal on the same train, or relaying it to the next following train. The usual practice was to give the locomotive such repairs at the turnaround terminal as were necessary to get it back to the maintenance terminal. Heavy running repairs were handled at the maintenance terminal, which was usually on one end of the run. After a few years of this operation locomotive runs were extended over two to three or four engine-crew districts, and by 1922 runs over four engine-crew districts in passenger service and three engine-crew districts in freight service were not uncommon.

"In years following, this handling was built up to where steam locomotives in passenger service were operated continuously from 1,500 to 1,800 miles, and locomotives in freight service from 500 to 800 miles. Today very few through-freight or through-passenger locomotives are operated over but one engine-crew district, and in practically all through-freight and passenger service the locomotives are operated on a program of extended runs which is worked out to give maximum utilization consistent with the service to be handled and the location of the terminals where heavy maintenance is performed.

Prompt Inspection on Arrival

"In order to get rapid turning of power at maintenance terminals it is necessary to have sufficient forces on the second and third shifts in the enginehouse to be able to repair and turn the power arriving on these shifts with the same regularity of turning time that is experienced on the first shift. We found it necessary in order to speed up the movement to strengthen our second and third shifts. We insist that locomotives be inspected just as soon as possible after they reach the maintenance terminal or turnaround terminal at the end of the run. In 50 per cent of the cases the locomotive is inspected within one hour after its arrival at the terminal, and only in rare exceptions is the locomotive in the terminal more than two hours before it has been inspected by the roundhouse force. By making this inspection promptly after arrival of the locomotive at the terminal the enginehouse foreman can materially reduce the terminal time by servicing and repairing the locomotives first which have the minimum work to be performed; and by furnishing these locomotives first he can hold the locomotives the necessary time that require heavier work and still furnish the power required.

"The usual terminal layout in existence that was established for locomotives on short runs involved an inbound and outbound track to the enginehouse, with fuel, water, sand and fire-cleaning facilities so located that it was necessary to stop at three or four different locations in order to supply the locomotive, and for servicing the locomotive it would require approximately thirty minutes' time with such facilities. This time, along with the time required to move from the train to the roundhouse and get back from the roundhouse to the train and make the air test, in many cases was greater than the time required to switch the freight train. In order to relieve this condition, made necessary by running locomotives through terminals, an arrangement of facilities in many cases has been provided where the locomotives are supplied fuel, water, and sand, and given fire-cleaning attention at one spot, pits being provided for handling underneath inspection and replenishing of driving-box grease if necessary, with the result that the roundhouse delay for inspection and servicing is being handled in ten minutes. During this time the outbound engineman is oiling the engine around and making his inspection.

"In switch service each terminal assignment is analyzed and such switch tricks as possible are grouped so that the locomotive will work three consecutive tricks before being turned into the enginehouse for repairs and servicing attention. Further analysis is made to group all of the tricks possible so that the locomotive will work two consecutive switch tricks, and such tricks as cannot be grouped are worked by turning the locomotive into the enginehouse after each trick, and after giving it necessary attention it is placed on another following switch trick.

Minimizing Out-of-Service Time

"In order to get maximum utilization from locomotives it is necessary to reduce to a minimum the time of handling enginehouse maintenance, and reduce intermediate terminal servicing time as well as turnaround terminal time. It is equally as important that the time of handling classified repairs be reduced to a minimum. The usual practice prevailing for many years in the handling of classified repairs is to work back shops and general repair shops eight hours per day, and six days per week. This program has been modified at all of the Santa Fe general shops, also in many of the shops where class four or class five repairs are made, by having a second shift which carries on classified repair work 16 hours a day instead of eight hours, resulting in a very substantial decrease in out-of-service days for locomotives receiving classified repairs. We have found that second-shift operation in repair shops on classified repairs has resulted in reducing the out-of-service days approximately 40 per cent.

"The activities carried on by the second shift are confined largely to the tight spots in the particular shop involved, such as stripping-gang work, boiler work, machine work, and floor work. These men on the second shift are used to expedite the particular character of work that is holding back the output of the shop, and their activities are changed to meet the particular conditions existing.

"The percentage of power out of service on the Santa Fe for general repairs, consisting of class three repairs and heavier, is ranging from three to four per cent of our ownership. Locomotives out of service for class

four and five repairs are also ranging from three to four per cent of the total ownership.

"We have made numerous studies of the time steam freight locomotives are in service, time undergoing repairs, and time waiting for train after repairs are completed, which show for a 24-hour period an average of approximately 12 hours working, 8 hours undergoing repairs, and 4 hours waiting after repairs have been completed. On passenger locomotives the hours working and hours undergoing repairs are approximately the same as for freight service, while on switch locomotives the hours working are approximately 16 per day.

Mileage of Active Locomotives

"A recognized unit for measuring utilization of locomotives is the miles made per active locomotive per day or per month, which takes into consideration all active locomotives and does not include those that are stored serviceable. With present operations on most railroads, no through freight or passenger power is now stored serviceable, and this has resulted in using as a yardstick in some cases the average mileage made for all locomotives assigned for various extended locomotive runs. On this basis all locomotives in the extended-run assignment are included—whether they are in the shop for general repairs, held in the roundhouse, or working.

"On the basis of average miles per active locomotive per day, the Santa Fe for the month of July, 1942, averaged a total of 318 miles per day for all locomotives in passenger service, a total of 167 miles per day for all locomotives in freight service, and a total of 94 miles per day for all locomotives in switch service.

"At the present time on the Santa Fe approximately 95 per cent of all through freight and through passenger locomotives are operated on extended locomotive run schedules over two or more engine-crew districts. In July of this year these principal classes of through-freight steam locomotives averaged 6,166 miles per locomotive for the 418 locomotives assigned. The highest mileage ran on the system in this service averaged 9,015 miles per locomotive assigned. In steam passenger service the average was 9,928 miles per locomotive for the 129 locomotives assigned, and the highest mileage made on any individual run averaged 15,382 miles during the month of July. These figures are quoted on the basis of locomotives assigned, regardless of whether they were in the shop for classified repairs, in the enginehouse for running repairs, or actually in service. The maximum mileage made by any individual steam freight locomotive was 10,397 miles during the month of July, and the maximum mileage made by any individual steam passenger locomotive during July was 20,290 miles.

"The Santa Fe, along with other western roads, is confronted with a problem of using as boiler water for locomotives the water which is available in this territory. The water available is considerably higher in sulphates and carbonate salts which produce scale, and also in alkali, than is water in other parts of the United States. Twenty years ago it was the practice to wash boilers after about 500 miles of service, and most of the water was treated with lime and soda ash wayside treatment. The treatment of water has been improved, and today many of these locomotives are being operated thirty days between washout periods due to the improved water treatment and the blowing out of boilers at regular intervals to relieve the concentration and sludge accumulations in the boiler. Locomotive boilers today are being operated at a higher rate of evaporation per square foot of heating surface than in former years, and with a reduced amount of foaming and priming; and this has materially reduced the time required to perform the necessary running repairs at maintenance terminals.

"Another major factor contributing to improved utilization of locomotives in present-day operation is the improved lubrication of all parts of a locomotive. A higher quality of engine oil, valve oil and grease has been developed in order to meet the high-speed service that is now required. Mechanical lubrication of valves and cylinders, engine trucks, shoes and wedges, guides and trailers has contributed to reducing hot-bearing trouble enroute. It has also contributed to reduced maintenance in enginehouses for such operations as renewing cylinder packing and valve rings, rebabbitting cross heads, changing engine-truck and trailer wheels, hot driving boxes and hot pins.

"Roller-bearing driving boxes, engine-truck, trailer and tank boxes, have also materially reduced maintenance work on these parts. We have two Mountain-type passenger locomotives equipped with roller-bearing rods that have been in service now for about one year. Performance to date indicates that less maintenance time is required with the roller-bearing rods.

"Diesel locomotives are being used in freight, passenger, and switch service to the extent of 7 per cent of the total gross ton miles for the system in freight service, 13 per cent of total car miles for the system in passenger service, and 17 per cent of the total switch locomotive miles. The average miles of Diesel freight locomotives assigned for the month of July this year amounted to 11,056 miles, for Diesel passenger locomotives 17,117 miles, and for Diesel switch locomotives 4,125 miles. Diesel switch locomotives were working 92 per cent of the hours in the month. It is the practice to give preference to the use of Diesel locomotives where both steam and Diesel locomotives are assigned, in order to get maximum utilization of the Diesels, resulting in some loss of mileage to steam locomotives.

New Power and Intensive Use Both Required

"Ralph Budd made the statement predicting an increase in traffic in 1943 of 15 per cent over that for the year 1942, and it was his judgment that the railroads would require 1,000 more locomotives and 100,000 more freight cars to handle this increased traffic safely.

"One thousand more locomotives, divided between passenger, freight, and switch in present ratio, would mean an increase in ownership of between 2½ and 3 per cent. These locomotives would be of the latest type and it would be safe to assume that they should handle between 1½ and 2 times the amount of tonnage of the average locomotives now owned in freight service, so that this relief would probably take care of from 4 to 6 per cent of this increase in traffic. The remainder would have to be taken up by more intensive utilization of present locomotives. This would mean that the locomotives must be utilized more intensively, handled to and from roundhouse promptly, and the time for servicing and repairs would have to be further reduced.

"Utilization of locomotives as measured by total miles per locomotive per month, or by hours worked per month, at the present time is the greatest that has ever been secured, and the study being given improved utilization is greater than it has ever been. This in part is due to critical material not being available to secure new steam or new Diesel locomotives readily, and also due to a large part of the locomotive builders' facilities being used on defense work. This has made it necessary that the railroads in many cases handle the increased business with the power they now have. I feel safe in saying that further improvements can, and will be made.

The Railways' Role in Logistics*

Strategy and tactics get the spotlight but those arts cannot be practiced without an efficient supply service

By A. H. Gass

Manager, Military Transportation Section, A. A. R.

WHEN we say we are at war with the Axis powers, it means that we are pitting the resources and the manpower of our nation against the resources and manpower of the Axis forces, and staking our all on the outcome of that struggle. The actual combat where force meets force is turned over to those skilled in military matters and the rest of us continue our job in support of those forces and attempt to do that job in a better way than it has ever been done before. And this applies to railroads as well as the people, because railroads are not the ties and rail that make the tracks, nor the equipment that moves over them, but the men and women employed by the railroads, each doing his best to make things click.

Getting the Right Stuff Where and When Needed

The part that railroads play in warfare is one of the most important divisions. Military men divide warfare into: Strategy, Tactics and Logistics.

Strategy deals with the long-term science of warfare—planning of campaigns, deciding how armies, navies and other forces will be employed. Tactics deals with the handling of units in the field of action, and may range from a corporal handling his squad to a general directing an army. That disposes of strategy and tactics, that all armchair generals know about. Now what about logistics? Logistics is the science of transporting and supplying an army in war—getting the right stuff to the right place at the right time. A recent example of good logistics was the landing of our expeditionary forces on the coast of Africa, and I hope you read the newspaper report that said they landed with their own locomotives.

Not so long ago we heard a lot about "too little and too late"—proof positive that somewhere someone's logistics plan had gone haywire. But when you hear that our troops have landed and are advancing you know strategy is right, tactics in order and good logistics is supporting both.

The relative importance of strategy, tactics and logistics will no doubt be argued to the end of time. Strategy and tactics unquestionably predate logistics, for in the early history of mankind men met and fought in battle where chance let them meet. Tactics were used in those battles, and perhaps even strategy; for having met, the enemy was definitely located and plans of strategy could be formulated for tomorrow's battle. Logistics was born when some war-weary worthy decided it would be better strategy to order his supplies up to support his army in action, rather than to retreat to his base of supplies and risk losing a tactical advantage gained in the day's action.

Historians are never very kind to those who take a less spectacular part in warfare. For example, everyone knows about Paul Revere, but who knows the name of his horse? And so it is with the matters of logistics. History buries them in a misty past and emphasizes the spectacular. Still we know in a vague sort of way about Hannibal's elephants, about Caesar's roads and how their transport, crude though it was, led them to victory. We also know how Napoleon's failure to provide adequate transport caused his retreat from Moscow and perhaps changed the whole course of the world. That may sound like overemphasis on transport. It is not—you can't overemphasize it. Admittedly good transportation alone can't win a war, but deficient transport can lose a war and transport is the backbone of logistics.

When Adolph Schickelgruber started out on his quest for world domination he first drew a road map. From Berlin to the borders of Germany he drew straight lines and on those lines built what was hailed by the military leaders of the day as an ideal transport plan. The Reichsautobannen were the anchor to which he tied his entire strategy. Before he built a tank or gun he set up his unified system of transport and supply. A single idea motivated his planning. His roads would carry troops, supplies, workers to the places where they were needed, and by the shortest and quickest possible route. But he neglected his railroads. Now his mistake is clearly evident. When Hitler put this war on wheels he erred in the type of wheel he used. He gave no consideration to the volume of coal he would have to transport to his factories for synthetic rubber, necessary for full utilization of his roadways, or for the materials to be transported for his synthetic gas, without which his entire plan was stymied. In fact, he erred in putting this war on any kind of wheel—for putting it on wheels was putting it right down our alley.

Of course, our wheels were not adapted to warfare. They were the result of the pursuits of peace in a peace-loving nation but they were quickly converted.

The Iron Horse Becomes a War Horse

Now a manufacturer of brassieres is making parachutes; a cosmetic company formerly making lipstick-holders is turning out metallic cartridges which have just as devastating an effect on a man as their previous product. Coca-Cola is making ammunition, a watch maker is turning out time fuses, a grave vault company is making hulls for tanks, a bathtub manufacturer now makes armor-piercing shells and the Iron Horse of peace time has become the War Horse of the Nation. And what a war horse he is proving to be! Not the wind-broken, spavined steed he was pictured to be by those who claimed the railroad industry was decadent, obsolete and suffering from dry rot.

When the history of this war effort is finally written and credit given where credit is due, the railroads must surely be recognized for the outstanding job they have

* Abstract of an address to the New York Railroad Club, November 19.

done. We hear a lot about the award of Army and Navy "E" pennants to all sorts of industry, but none to railroads. I feel sure it may be because they recognize the good job being done, but haven't enough "E" buttons to pin the lapel of the army of a million railroad men and women who are making the record possible.

Railroads Began to Fight on December 7, 1941

Great praise is given, and great praise is due, to industry for the speed they are making in building tank arsenals, bomber plants, and other factories for the production of munitions. But these tank arsenals, bomber plants and other facilities were created new and took time to build. Railroads moved troops and materiel on the night of December 7.

The movement of troops and materiel for combat forces does not unduly impress the average layman, for he does not know what is involved. To move an infantry division, which means about 15,000 men with their equipment, requires approximately 1,350 cars of all classes; baggage, coach or Pullman, box, flats and gondolas. This makes about 65 special trains. An armored division with its 3,000 tanks, half-tracks and wheeled vehicles, takes 75 trains of from 28 to 45 cars each. Contrast that with the equipment necessary to take a like group of commuters home.

Of course, there is no comparison in the handling of large groups of civilian traffic and large groups of the military. In fact, there is no comparison between handling of large groups of the military in this war and in the last war.

Things Have Changed Since War I

In World War I our army was moving in one general direction; now they are moving in all directions and moving more frequently. In 1917 the average soldier moved from home to camp to port. Now he moves from home to induction station, back home for a 7-day leave to straighten out his affairs, thence to a reception center where he is clothed and equipped, gets his first shots to immunize him from everything from tetanus to yellow fever. Then he moves to a replacement training center where he gets a fifteen-week course in toughening up and becoming a soldier. From here he goes to the unit training center where he is assigned to the arm of service in which he will serve. From his unit training center he again moves on to the port, but may move to and from maneuvers in the meantime—a minimum of six moves and, many times, more.

Then, too, this war is mechanized. Equipment is heavier and all units are heavier-gunned than they were in 1917-18. We have bombs now that the planes used in the last war couldn't take off the ground. With a mechanized war the supply problem becomes greater, for with horse-drawn artillery and supply trains an army could to some extent plan on securing forage for their animals in the country they passed through. But the jeeps, tanks and trucks that have replaced the noble animal that had "no pride of ancestry or hope of posterity"—the Army mule—want their liquid rations or they stop and stay stopped. To see that they don't stop because of a lack of supplies is one of the reasons the railroads have gone to war.

In the Services of Supply of the Army there is a Transportation Division devoting its entire activities to the transport needs of the Army. The SOS is as its name suggests the part of the army, co-equal with the ground forces and air forces, devoting their efforts to problems of supply most of which have a transport angle. The SOS is the biggest business ever organized. It comprehends more activities than any other organization in the world. It has more employees in more operational locations, spends more money, administers, designs, manufactures, buys, stores, and distributes clothes, feeds, houses, equips, transports, educates, and, if you want to be utterly horrid, embalms and buries the soldier.

To establish an expeditionary force such as we have just sent to Africa requires from 5 to 12 tons of materiel per man and to maintain him there takes another one ton per man per month. Visualize the transportation in such a force.

So far I have been dealing mainly with the problems of transportation as they directly affect the military. Actually, this is the smallest part of the railroads' contribution to our nation's war effort.

The Whole Story Can't Be Told Yet

When the need for ships made it necessary to take the coastwise and intercoastal ships, the railroads fell heir to the job. When tankers normally supplying the East coast with fuel oil and gasoline found the sea lanes unsafe because of enemy action, the railroads stepped in and have done such a commendable job that even some of our earlier critics have given unstinted praise. Added to all this "new" traffic was the heavy increase in shipments by war industries, such as ship yards and plane factories on the West Coast—all war-created industries—serving to disrupt badly the normal channels of distribution. But as many and as varied as these new tasks were, they have been done and done well.

How great the task and how great the railroad contribution cannot yet be told, but when it is finally set down in history it will not only be an epic in transportation but a thrilling story of how an industry rose through a maze of legislation thicker than any heaped on any other industry, and despite neglect from those charged with formulating "fostering care," has done a job they know how to do with the same determination of a weary trainmaster who paraphrased a popular song by singing: "Praise the Lord and pass the Bromo-Seltzer . . . Number Seven is going through on time if I have to take this damn railroad apart. . . ." That, gentlemen, is the language of victory.

"A's Income Is B's Cost of Living"

"It is precisely because so many people still fail to see this obvious fact that the battle against inflation has been so feeble. A, of course, wants all his expenses to be low: he denounces higher prices for eggs and milk and beef, or for shoes or overcoats or rents. But he wants his own income raised.

"What he fails to understand, if he is a shoe worker, is that higher wages for him mean higher prices for everybody else's shoes. What he fails to understand, if he is a farmer, is that higher prices for him mean higher costs for everybody else's food. Everybody is against inflation—in his role as a consumer. But too many of us are still *for* inflation—in our role as producers.

"Not until it is clear to practically everybody that he cannot have it both ways, or that he or his group cannot be allowed to profit at the whole nation's expense, will the battle against inflation be a whole-hearted one."

—From the New York Times.

Equipment Allotments Inadequate

Prospects for 1943 program are now left resting on hope that eight-months and six-months authorizations will be adjusted in later redeterminations—Steel for first-quarter considered fairly satisfactory

WASHINGTON, D. C.

PROSPECTS for obtaining what the railroad industry regards as adequate new equipment for 1943 now rest on the hope for later readjustment of the present eight-months authorizations for 250 steam locomotives and 36 road Diesels, and the six-months authorizations for 100 Diesel switchers and 20,000 freight cars. Projecting these figures on an annual basis would indicate a 1943 program calling for 629 locomotives, 271 less than the 900 sought by the railroads, and 40,000 cars, or just half of the 80,000 requested. As had been anticipated, no new passenger car production was authorized.

Meanwhile, the authorizations of steel for maintenance of way and equipment has been appraised in railroad circles as fairly adequate. These steel allotments, all for first-quarter delivery in 1943, are: Rail, 480,000 tons; track accessories, 288,000 tons; repairs to equipment, 330,000 tons. On an annual basis, these would indicate 1943 totals as follows: Rail, 1,920,000 tons; track accessories, 1,152,000 tons; repairs to equipment, 1,320,000 tons.

Locomotive Quota Particularly Disappointing

The authorizations determined recently by the War Production Board's Requirements Committee were announced on November 19, following a meeting at which Andrew Stevenson, director of WPB's Transportation Equipment Division, outlined the program to his Transportation Equipment Industry Advisory Committee, consisting of builder and railroad representatives. That meeting was followed by other sessions at which determinations were made as to the allocation of the production among contract-builder plants and railroad shops.

The railroads' immediate reaction was one of disappointment in the equipment authorizations, the disappointment finding expression mainly in comments on the locomotive program; for while there was no satisfaction with the car program either, it was pointed out that cars are of little use in a period of motive power shortage. It is understood that the locomotive program finally recommended by Director Eastman of the Office of Defense Transportation and the Association of American Railroads' presentation calling for 900 were not far apart. And while the A. A. R. presentation was on an October-to-October basis as compared with the calendar-year-1943 basis of the authorizations, the carry-overs balance out to make substantially correct the above statement to the effect that if the present authorizations are carried forward on nothing more than a pro-rata basis, the locomotives forthcoming during the next year will be 271 short of the estimated requirements.

In other words, the eight-months program for 250 steam locomotives and 36 road Diesels would if extended for 12 months bring 125 more of the former and 18 more Diesels, or the totals of 375 and 54, respectively, mentioned at the outset. Likewise, the 100 Diesel switchers authorized for six months would become 200 for the year. Hence a 12-months program for only 629 locomotives as it is indicated at this time. The Diesel-switcher situation is causing some concern, for the authorization in that connection is reported to represent a drastic cut under the railroad proposal. It has been suggested, however, that switcher production from the 250 steam locomotives authorized might bring some relief.

All Cars to Be Open-Tops

With respect to the car program, all 20,000 will be open tops. While Director Stevenson's meeting with his advisory committee was not open to the press, it was learned that the discussions there included considerable talk about standardization of designs and concentration of construction. As noted in the *Railway Age* of November 14, page 792, the Transportation Equipment Division recently requested car builders to restrict to seven designs their production of gondola, hopper and flat cars for general service under Limitation Order L-97-a. The 1943 car program recommended by ODT to WPB was not made public, but it is reported to have called for between 73,000 and 74,000 cars, as compared with the railroad request for 80,000.

WPB's November 19 announcement of the authorizations said that its action would enable railroads "to place promptly the major portion of their orders for rails and equipment to assure delivery on schedule." Ferdinand Eberstadt, WPB vice-chairman in charge of program determination, appeared at the advisory committee meeting, and is reported to have told the builder and railroad representatives that they had the "green light" to go ahead on the authorized program. In other words, it was emphasized that the necessary materials would actually be forthcoming under allocations.

Some Hope for More Steel Later in Year

It was also pointed out at WPB that the new Controlled Materials Plan (see *Railway Age* of November 7, page 742) which is being launched on a gradual basis to become fully effective next July 1, embodies procedures for resurveys and redeterminations of programs on the basis of new developments in the materials situation. Under such a set-up, the railroad industry would seem to have some basis for hope in recurrent reports to the effect that the next six months will bring an easing of the steel situation.

Such reports are based on the fact that substantial non-recurring demands for steel used in war-plant construction are well on the way to satisfaction. These include plants now building for the production of synthetic rubber, aviation gasoline, and aircraft engines. It has been suggested at WPB that as those facilities are completed—and they are reaching that stage—more steel

should become available for other allocations. Also, there has been some thought that the African campaign, though it brings new Army demands for rolling stock, might nevertheless make a substantial net contribution to an easing of the over-all steel situation, if one result should be such a shortening of United Nations' communications lines as to alter conditions with respect to steel required for shipbuilding.

However, a note of caution with respect to the easing steel situation was sounded on November 24 by Hiland G. Batcheller, director of WPB's Steel Division. "In recent weeks," he said, "a number of reports have given the impression that the steel situation is easier. Such expressions of opinion are likely to prove misleading without a more complete explanation. It is true that the backlog of orders on the books of producers is lower than it was several months ago. However, this is a direct result of action taken by the War Production Board to restrict the tonnage of steel which can be purchased so that it may be related more closely to the available supply. Such action has been taken through the Production Requirements Plan and by numerous limitation and conservation orders eliminating the use of steel for non-essential purposes and curtailing its use for many other needs.

"Under such a program it is only natural that the demand for certain steel products will be lighter than for others. Typical of this are the steels for construction purposes such as structural shapes and concrete reinforcement bars. The need for such types of steel is steadily diminishing as we near the completion of the war construction program. However, at the same time the demand for other types of steel—such as alloy steel, so important for aircraft and tanks—is steadily growing. It is one of the responsibilities of the Steel Division to direct production into the products most urgently needed for our war effort and essential civilian requirements. This we are doing and will continue to do through every possible means."

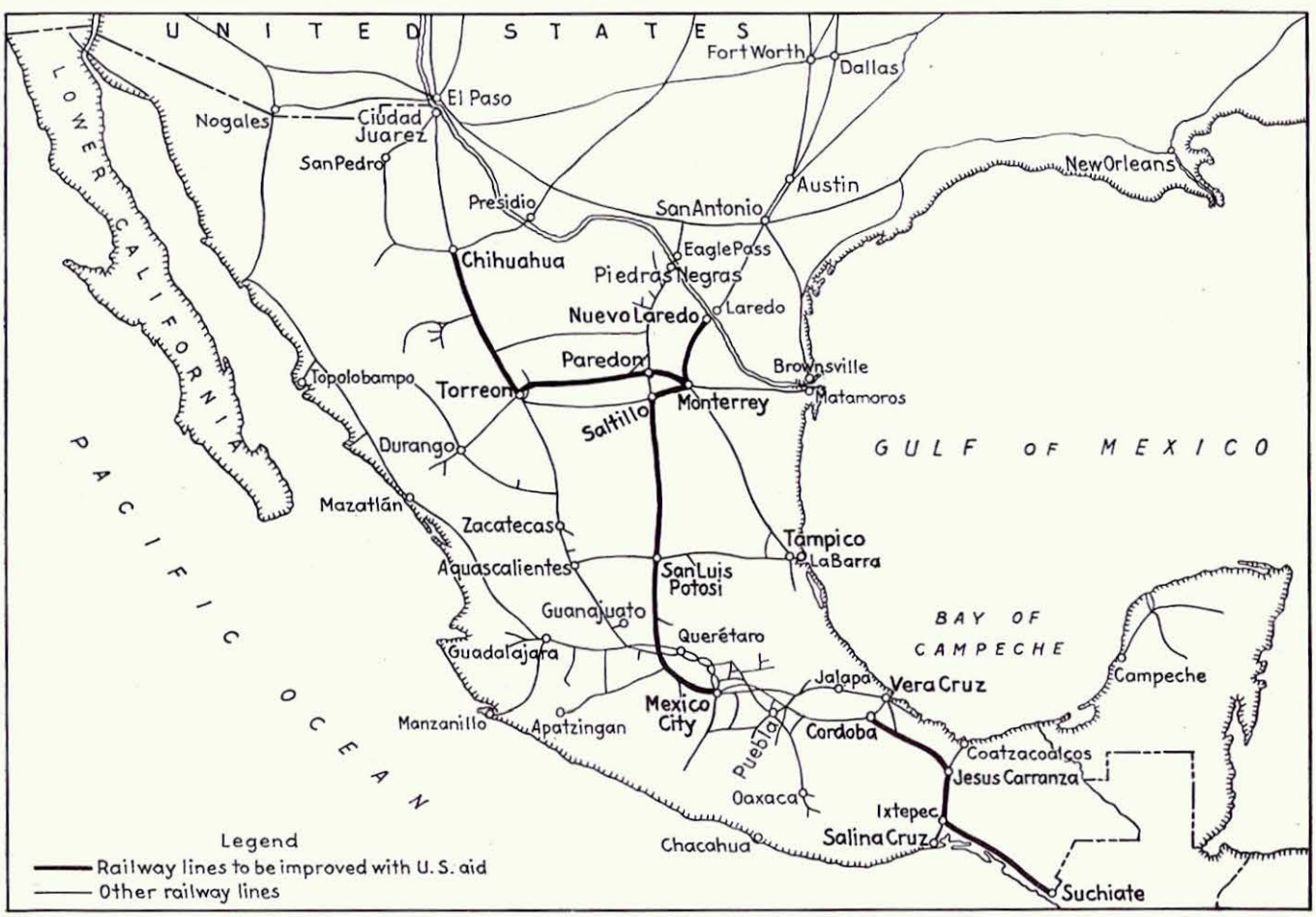
U. S. Will Improve Mexican Railroads

WASHINGTON, D. C.

AN extensive program to rehabilitate much of the main line trackage of the Mexican National Railways and to improve the equipment situation on that system is now in progress, and will continue at an accelerated pace with the help of the United States government and a staff of technical men from United States railroads, the State Department announced in Washington November 19.

Arrangements under which this co-operative improvement program will be carried out were made effective by an exchange of notes between the Mexican Foreign Minister and the United States Ambassador, which followed extended negotiations that grew out of purchase by United States government agencies from Mexican producers of "extensive quantities of a long list of strategic commodities . . . which are urgently needed by the U. S. for the manufacture of war equipment."

Recognizing that "the capacity which Mexico has to produce articles which are needed with so much urgency



The Railways of Mexico and Connections

is greater than the possibilities of the Mexican system of transport to carry them from the mines, fields or forests where they are extracted or produced to the places where they are exported, manufactured or consumed," the Mexican government asked the United States to "take rapid and effective steps" to carry out "basic improvements" in the tracks, equipment and motive power of the Mexican railways. It also requested the United States to "strengthen" the staff of railroad technicians already in that country, and to include in it "a limited number of specialists" to carry on a complete examination of the Mexican railroads and offer advice as to what further improvements are necessary to achieve maximum efficiency of "organization and functioning."

The United States Railway Mission in Mexico, which will include the technical staff provided under these arrangements without cost to Mexico, will be headed by Oliver M. Stevens, president of the American Refrigerator Transit Company, formerly executive representative in Denver, Col., of the Missouri Pacific. His staff will include "mechanical, track and transportation technicians."

The Mexican Minister stated in asking the appointment of the railway mission that Mexico recognized "that the management and the operation of the railways should be improved in order to obtain the greatest efficiency in the utilization of the resources already existing and of those which may be obtained."

The initial program outlined by the United States Ambassador provides for rehabilitation of the following lines: The main line from Laredo, Texas, south via Monterrey, Saltillo and San Luis Potosi to Mexico City; the east-west line from Torreon via Paredon to Monterrey; the line from Torreon to Chihuahua; and the main line from Cordoba and Puerto Mexico through Jesus Carranza and Ixtepec to Suchiate on the Guatemalan border, where connection is made with the International of Central America by the bridge recently completed there.

In order to carry out this program without delay the United States government has agreed to bear the cost of all material and equipment obtained in the United States which the railway mission considers necessary to accomplish the purposes of the agreement. The United States also will pay for rails and fastenings produced in Mexico under the program, and will bear the cost of repairing in the United States Mexican motive power and other equipment sent to this country for the purpose with the advice and consent of the railway mission. In addition the Ambassador stated, "there will undoubtedly be equipment and materials which the facilities of Mexican industry can supply, which would be furnished for the rehabilitation program by the Mexican government." The United States also is to bear the cost of "such additional Mexican road gangs . . . as are necessary to put into adequate operating condition the roadbed of the lines" included in the program, but not those required for normal maintenance.

Army Won't Let ODT Limit Trucks

N.I.T. League told highway carriers will be taken over if "certain powers" prescribe limit to operating radius

IF "certain powers" attempt to limit the radius in which motor trucks are permitted to operate, the Army will step in and declare such trucks to be "vehicles in the service of the War Department," thus removing them "from the influence or control of any other agency."

Such was the challenge flung down to the Office of Defense Transportation (which was not, however, mentioned by name) by Colonel W. J. Williamson of the Transportation Corps of the Army (formerly general traffic manager of Sears, Roebuck & Co.) in an informal statement to the National Industrial Traffic League, meeting in New York on November 20.

Not Just Trucks Handling War Material

It is not just trucks handling military supplies to which Colonel Williamson's objection to mileage limitation applies—but to those handling commercial traffic as well. In his statement he referred to them as "common carries" but, in response to a question from the floor, he indicated that the War Department interdiction of mileage limitation also applies to contract carriers. The War Department's authority to control transportation, according to Colonel Williamson, appears to be derived from the belief that it is "charged with the definite responsibility for the successful prosecution of the war." It has (again in Colonel Williamson's words) "a deeper interest in this subject rather than any other agency can possibly have."

The Executive Order, dated December 18, 1941, establishing the Office of Defense Transportation, gave it the duty of "co-ordinating" the transportation "policies and activities of the several federal agencies and private transportation groups in effecting such adjustments in the domestic transportation systems of the nation as the successful prosecution of the war may require." Nothing is contained in that order which gives veto power over ODT orders to the Army, although the War and Navy and a number of other government departments are directed to "maintain formal liaison" with the ODT. Under its authority to "co-ordinate" the ODT has (in General Order No. 1) required the railroads to relinquish certain l. c. l. traffic to trucks.

Mileage Limit Suggestion Came from Shippers

The truck mileage-limitation proposal which has aroused Army opposition was outlined in the *Railway Age* of November 21, page 854. So far, it is only in the discussion stage. The proposal would—with certain exceptions—limit trucks to a radius of 250 miles and, at the same time, would force the railroads to retire from hauls of less than 50 miles. The Trucking Association, as reported in last week's issue, objected to the limitation, blaming the railroads for suggesting it. Actu-

ally, the demand for this restriction has come from shippers—those who do not wish to see limited tire supplies used up in handling goods which can move by rail. The proposal has been supported also within the Army's traffic department.

Addressing the N. I. T. League on November 19, the day before Colonel Williamson appeared before it, ODT Director Eastman referred among other things to proposed truck mileage-limitation. While opposing "arbitrary treatment of this matter," Mr. Eastman nevertheless insisted that "a considerable number of long-haul truck operations have no justification under present conditions."

League Adopts Statement of Principles

The N. I. T. League at its meeting re-elected its officers: President, R. R. Luddecke (Standard Brands); Vice-President, C. B. Tefft (Toledo Chamber of Commerce); Treasurer, R. W. Campbell (Butler Paper). The League adopted a statement of seven "principles"—largely in comment on the recent transportation report of the National Resources Planning Board (*Railway Age*, November 4, page 748). This statement read as follows:

"1. The League adheres to the preservation of private operation and management of railroads and other transportation agencies and insists that during this war it is essential that the control and regulation and supervision of transportation shall be left in the hands of transportation men, the Interstate Commerce Commission, Office of Defense Transportation, with continued cooperation of organizations of the carriers themselves and of shippers.

"2. Transportation is being successfully conducted today, by private management, under the supervision of transportation men in established agencies of the Government. There has been no failure to meet the military and commercial wartime needs, no real failure is threatened, no breakdown is to be anticipated, despite the most extraordinary demands for service in the war effort.

"3. There is no present need for any rationing of transportation, and any proposal in the near future of such rationing will seriously retard the war effort and must be regarded as an effort to seize upon transportation as affording power to accomplish general control of all business enterprises.

"4. To transfer either the control or management or supervision of railroads and other carriers to other Government agencies, established or to be established, would be to jeopardize results and imperil the efficient movement of traffic which is the paramount present all-out need.

"5. Long range planning for transportation, to govern in the post-war period should not be controlled by principles of social economics. Transportation shall not be made the instrument for attempting broad reforms of purely social nature.

"6. The voluminous Report of the National Resources and Planning Board, Frederick A. Delano, Chairman, recently transmitted by the President to the Congress, while it contains certain chapters which represent earnest studies by men of high standing, proposes recommendations of revolutionary effect which are predicated on the false assumption that there is something fundamentally unsound and out-moded in the American transportation system, amounting to failure, and reflect the erroneous doctrine that transportation is a medium for accomplishing a social and economic reform amounting, perhaps, to a new order of life. The implications of the Report and the probable results of its recommendations appear to present a serious threat to cherished principles of private enterprise; and the League will earnestly oppose Government ownership or domination as therein contemplated.

"7. This is no time for attacks upon the carriers, or upon agencies of Government, which may impair the public confidence in any phase of the country's production effort or create doubts as to the splendid performance of transportation companies. It will be cause for great regret if fears or threats of anti-trust prosecutions shall embarrass carriers and shippers in considering continued fullest measure of co-operation in behalf of most intensive and efficient use of all transportation facilities and services."

Mr. Eastman's Address

The address of Director Eastman follows in part:

"In Washington, our domestic wartime transportation is viewed from differing angles. Some have uppermost in mind the size of our military forces and the quantities of war material and the like which we can produce and move overseas for ourselves and our allies. With the object of making this direct contribution to the war effort as great as possible, they would use our resources as little as possible for other activities, and with these other activities they include transportation. Others think of transportation, not as something apart from the war effort, but as a factor of such all-pervasive importance in that effort that it ranks high in the list of direct war activities and must at all costs be kept in condition for adequate and efficient service at all times.

"The sound point of view, in my judgment, is a composite of these two. We must deliver at the front the greatest strength in men and armaments that we are able to deliver, but we cannot do that if we neglect the means of production, and transportation, as I have said, is the life blood of production. Not only that, but transportation is indispensable to the mobilization, training, and sustenance of our military forces, and essential to the maintenance of such civilian economy as must be maintained even in time of war. Nor should we forget that at a time when our domestic transportation facilities are facing demands upon them by far the greatest in our history, they have, since the war began, actually been contracting instead of expanding, and the process of contraction is still going on. I refer, of course, to our intercoastal and coastwise shipping and to our rubber-borne transportation.

"In the Office of Defense Transportation, we believe that the railroads need new locomotives and cars. At the same time, in estimating those needs, we have taken into account all the opportunities that we know of for getting more and better use out of existing equipment and for getting rid of wasteful transportation and we are undertaking to promote and exploit those opportunities to the utmost of our ability.

"I do not need to tell you that I believe the carriers of the country have done a most remarkable piece of work ever since the beginning of the emergency with most remarkable help from the shippers. Both have given me most satisfactory co-operation. Yet, notwithstanding that co-operation, I am not sure that you are wholly satisfied that some of the things are necessary which we are undertaking to do and which cause inconvenience and at time hardship to the shippers. I want you to know at least why we believe they are necessary.

Equipment Acquisitions Will Not Be Large

"We know that as our military forces increase in size, troop movements, which already are a heavy burden on our railroads, will continually increase in volume and frequency. We know that because of the rubber shortage, our rubber-borne transportation, upon which this country is now so dependent, is shrinking, and that this will throw new burdens upon our railroads. We hope to keep that shrinkage slow, but how successful we shall be in this we do not know. We know that the process of mobilizing all of our resources for production has by no means reached its peak, and that the volume of traffic will for some time increase as production increases. We know that the necessities and vicissitudes of war have already thrown heavy burdens on our carriers which were not foreseen, and that they may well bring like heavy and unforeseen burdens in the future. We know that our carriers are driving their equipment, and particularly their motive power, to the limit and have very little reserve strength left. We know that they will soon be faced with serious manpower troubles. We hope that they may be permitted to receive some additional equipment, but we know that such additions to their strength will not, in relation to the total burden upon them, in any event be large.

"Under such conditions and in view of the extraordinary importance of our domestic transportation to the war effort, I submit that the only prudent and safe thing to do, and the only thing that is consistent with an all-out war effort, is to make full use

of every opportunity to increase the utilization of our transportation facilities and to eliminate waste in transportation, even if inconvenience and some degree of hardship and sacrifice to the shippers is involved.

"General Order No. 18 causes many shippers some inconvenience or extra expense, and for some it may cause actual hardship. On the war credit side, it will save many cars and relieve the strain on motive power. On the whole, the attitude of the shippers toward this order has been all that could be desired. You do not like it, but you have taken it philosophically and patriotically, and we have tried to co-operate with you in framing the order and administering it so as to avoid undue hardships.

Industry Backward in Curtailing Cross-Hauls

"On the cross-hauling matter, I have been disappointed with the attitude which the industries, in general, thus far seem to have taken. There can, I think, be little doubt that it is possible for many industries to save considerable transportation, if they will give serious attention to this matter, and without any undue hardship from the point of view of an all-out war economy. The Office of Defense Transportation has been urged from various quarters to deal with this situation by transportation orders. I have been unwilling to do this without prior advice from the industries and until they had been given an opportunity to consider what could be done without harm in other directions which might overbalance the transportation gain. We have worked out a plan with the Transportation Division of the War Production Board whereby this opportunity can be given to its industry divisions. With some notable exceptions, there have so far been few constructive results. The industries should know that the Office of Defense Transportation and the Transportation Division of the War Production Board are serious about this matter. If we cannot act with the help and advice of the industries, we shall have to try our hand at the problem as best we can without such help and advice.

"When it comes to the trucks, the situation is very serious and exceedingly difficult. No man on my staff has a harder job than John L. Rogers, as the head of the Division of Motor Transport. You know better than I do how dependent our country has become in many respects on truck transportation. But there are nearly five million trucks, the great bulk of them privately operated, in the hands of probably more than three million separate owners, and they are engaged in all manner of differing kinds of work, often highly specialized. The railroad industry is well organized, and between the Association of American Railroads, the Regional Advisory Boards, and your own League the carrier and shipper field is pretty well covered. There is no such situation in the case of trucks. On the contrary, there are almost innumerable groups which are intimately concerned with various phases of truck transportation, as we in ODT have ample reason to know.

Difficult to Enforce Orders on Trucks

"From the beginning it was evident, in view of the rubber situation, that intensive conservation of truck transportation would be necessary and, as you know, we endeavored to promote such conservation by various general orders. Because of the complexity of the situation, these orders were very difficult to frame and administer. They produced results, and I am glad to say that our best information is that as much as 25 per cent of the 1941 mileage has been saved, and without any essential loss to the public. Last summer, however, it became evident that more extreme measures were necessary. They were forced by three things: (1) By the gasoline rationing in the East, which we were confident would be extended throughout the nation; (2) By the developing facts in regard to the rubber shortage, as made clear by the Baruch report; (3) By the difficulty in obtaining adequate enforcement of our general orders.

"We were driven by the force of events, therefore, to the conclusion that we must deal individually with each operator, notwithstanding the tremendous scope of the task, and bring home to them individually the drastic needs of the situation and the means which must be taken to avoid disaster. Gasoline rationing set time limits to the undertaking. We had to make our new plans, draft documents and print them by the millions, and build up a country-wide organization—all in short order. If we had had months instead of weeks, we could have done a more perfect job. The result was General Order No. 21, with its Certificates of War Necessity. I do not like that order and, to the best of my knowledge and belief, no one else does. But I could see no escape from it, and we shall carry it out.

"In accomplishing the necessary reduction in truck mileage, we shall need to confer with representatives of the League and similar groups, and I know that Mr. Rogers is planning for such conferences. It was at my request, as I recall it, that the League appointed a Special Committee under the chairmanship of William H. Day for the purpose, among other things, of such conferences, and certainly we welcomed its appointment. It has saved our time and enabled us to discuss matters in confidence which were not ready for public discussion.

"From the beginning, we have been urged, in the interest of rubber conservation, to take steps to discontinue long-haul truck and bus operation. Knowing what I did about such operations, I have been opposed to any arbitrary treatment of this matter. The reasons for long-haul operations are many and varied, and what appear to be such operations are often not of this character in reality. By this I mean that they conduct an on-and-off business, so that the average haul is short. In many cases, also, operations which actually are long could not be discontinued without distinct loss to the war effort.

"At the same time I realize that a considerable number of long-haul truck operations have no sufficient justification under present conditions and that, as compared with the railroad and as a general rule, the truck has much greater relative efficiency on short hauls than on long. In the case of petroleum tank trucks, we have forced the substitution of trucks for cars on many short hauls, releasing in this way as many as 9,000 tank cars for the long hauls to the eastern seaboard, and with the result that long-haul tank truck operations are being curtailed. Something of the same sort has happened, I think, in the case of package freight as the result of our General Order No. 1. Economic conditions, also, have brought to an end many long-haul peddler operations, with the objective of bringing about such shifts as were practicable to enable each form of transportation to be used to the best advantage under present conditions.

Railroads Not "Putting Something Over"

"These men, working jointly in this way, have run into many difficulties, as I was sure they would, and no report from them has yet come to me. One proposal, made by my rail group, has in some way achieved rather general circulation, and it seems to be this proposal that has caused the present furor. I have not seen it personally, and know about it only in a general way. It has been represented as an attempt on the part of the railroad industry to put something over on the trucks, but I assure you that there is nothing to this notion. It emanated from my staff and not from the railroads. It has been submitted for criticism to representatives of both the railroad and the motor carrier industry, and both have indicated their opposition. Your Special Committee will also be given a shot at it.

"I do wish you to know, however, that I believe that much can and should be done to decrease long-haul truck operation in the present emergency, and also to increase short-haul operations where the trucks can release, as the tank trucks have done, a much larger number of railroad cars for more efficient use. My chief concern is that in any such process the rights and interests of the truck operators in the long-haul traffic shall in some way be preserved, so that they may resume their normal operations without prejudice when normal times return. Otherwise I assure you that I have no fixed conclusions and shall be able to review the recommendations of my staff, when they are submitted, and all representations of interested parties with a wholly open mind. The disposition of this matter, however, cannot long be delayed."

Colonel Williamson States Army Position

Colonel Williamson's statement was as follows:

"I have been asked to come up here—in fact, I have been ordered to come up here—and give you a message, subject to the approval of your President, and occupy a few minutes of your time in giving you the War Department's thinking in connec-

tion with proposed limitation on the operation of motor trucks. No one has been authorized to speak for the War Department, heretofore, officially. I am here by order of my Commanding General to tell you this story so that you will know exactly how we feel about this situation.

"The War Department, in so far as the operation of commercial vehicles—common carriers in interstate traffic is concerned—is opposed to any regulation. Of the total of approximately five million vehicles—motor trucks in operation today—there are less than 5 per cent that are engaged in common carrier interstate transportation. So out of the total, we have a very small number that are really involved in this discussion.

"Of the approximately 200,000 vehicles, I dare say that 70 per cent or better of the tonnage that they are handling today is involved either directly or indirectly in the war effort. So that when you eliminate the purely commercial traffic that is left, you really don't have much to talk about. Some of that commercial traffic is woven into the handling of the war effort goods in a way that it would be difficult to separate it, and we wouldn't want to see it separated if it could be. Many times a motor vehicle is used in the quick and expeditious movement of some strategic materials for the war effort, and in order to utilize that vehicle to its fullest capacity and usage, we don't want to see it come back empty, but we do give it, or try to give it, a load of commercial merchandise; or even on the outbound movement the vehicle may be loaded. It could be a small percentage of War Department goods but it might be a shipment of the most vital importance in the war effort and the balance of the cargo could be made up of commercial merchandise.

"We don't want to freeze the operation of these vehicles by any rules or regulations. We feel—and I know that the War Department have explicit faith in their transportation organization, in their traffic control organization, and they know that these vehicles are going to be used in the war effort in the very best possible manner.

"Now, personally, I have got a deep and an abiding faith in the intelligence, the loyalty and the patriotism and the good sound common sense of the transportation men and women of America. I don't believe they need any restrictions placed upon them as to when and where these vehicles can be used. I believe that each and every one of you people will go back into your own home communities as emissaries or advocates to see in your own businesses that the use of motor trucks is not violated, that they will be used only where they are the practical vehicle to use, and that you also will carry the message back to your associates in other businesses to see that they respect the good sound common thinking of the worthwhile transportation people of this country. I don't think we need any further restriction on it.

"In so far as the War Department is concerned, the field, so to speak, have authority to route everything under two carloads of freight. That means all l. c. l. freight. There were some abuses in the past in the choice of the transportation vehicle that was to handle some of this merchandise and that did handle some of it. But we have caught up pretty well on that and there are now nearly 1,500 different military establishments in the country. The Air Service have by far the largest number of these installations, over 600 of them.

Experienced Traffic Men in Charge

"We are gradually getting experienced transportation officers placed in each of these different installations, men that know when a motor truck should be used. They know the urgency of the shipment that they have got to make; they won't abuse the mileage factor and the motor truck will be utilized in the most advantageous way.

"Now, supplementing these transportation officers at all these different installations, we have a traveling organization of experienced traffic men. You know a lot of them yourselves. Practically all of them were members of the N. I. T. League in their former capacities. These men are traveling over all of these various military installations as well as the industries within their particular areas, bringing the message of better transportation home to the shipping officers of both the military institutions and also industry.

"I believe that we would better serve the interests of the war effort if we tried to approach this problem from a good, sound, practical point of view than trying to place restrictions on the operation of the carriers. When we want to move a shipment, it won't make a particle of difference whether it has to move a long or a short distance. That is the thing that will be done in the best interests of the war.

"Now, I think you fellows, at least most of you, know me well enough to know I wouldn't come up here and try to sell you a bill of goods that I wasn't wholly and entirely sincere about. I definitely feel that there is no need for this restriction that is being discussed at the present time, either for motor carriers or for railroads. I think that these things should be best left in the hands of the experienced traffic people that are guiding the direction of the nation's commerce at the present time.

The Army Will Take Them Over

"Now, I want to tell you what can happen if certain powers insist on this regulation. The War Department does have the authority and will exercise it to declare all common carriers in interstate transportation 'vehicles in the service of the War Department' and immediately remove them from the influence or the control of any other agency. We don't want to do that, but if certain interests insist on this regulation being put into effect, that will be our only way out. We don't want to take it and we hope that we can bank on you men in your various industries and businesses to go along with the War Department in attempting, and in the effort, to use and utilize the motor truck equipment of the country in a practical, efficient manner. No one can tell us about the scarcity of rubber, the difficulty in the replacement of motor trucks, parts and so forth. We are well aware of that.

"We are charged with the definite responsibility for the successful prosecution of the war. We have a deeper interest in this subject than any other single agency can possibly have. That is the message that I was directed to give to you this morning. I didn't come up to debate it, I didn't come up to ask you to go on record in any way, shape or form. I want to leave that with you and I want to gracefully retire from the room and say I am very happy of this opportunity and glad to be with you again, and God bless you all."

Public Spending—the Route Toward Economic Dictatorship

"The war necessitated large expenditures and at least one member of the spending school has been sufficiently callous to say that it is permissible to regard the war effort as a spending experiment, and that the experiment has been successful in restoring employment and raising national income. . . .

"Expenditures on a large scale give the government the power of an economic dictator. That power rises, first, from the necessity of large tax collections, and, second, from large disbursements.

"When taxes take a major share of corporation or individual incomes, the tax collector must take measures to see that those incomes are not hidden or dissipated. We are seeing how that works out. The Treasury now has power to determine how much a corporation may spend for advertising, what salaries it pays even down to its stenographers and it has proposed use of the taxing power to control individual expenditures.

"Huge government outlays give the government even a greater power. By buying from this one and not from that, the government can reward one and not the other. It can build up one class of industry and bankrupt another. . . . It can subsidize cities to drive private utilities from business. It can build its own businesses, such as the TVA, and choke private competition. It can set its own prices and control profits. . . .

"So when you read that a man gives lip service to private enterprise and in the next breath proposes that private enterprise be 'helped' by continued high government expenditures, it is high time to begin to look for the dusky gentleman in his particular woodpile. . . ."

—From the Wall Street Journal.

Converts Shop to Handle New Power

Simple changes in the locomotive facilities of the Delaware & Hudson at Colonie, N. Y., provide berths for repairing road's latest articulated freight engines—of the 4-6-6-4 type

A Portion of the North Side of the Colonie Main Shop, Showing the Track Connections to the Three Longitudinal Inspection Pits.

THE conversion of a portion of its system locomotive erecting shop at Colonie, N. Y., from transverse to longitudinal operation was the expedient adopted on the Delaware & Hudson when it became necessary to provide facilities capable of handling articulated freight locomotives of the 4-6-6-4 type, of which 20 were placed in service some time ago. These locomotives were too long to permit them to be handled in the transverse shop. Through the expedient of converting a portion of the shop to longitudinal operation, the problem of providing for the efficient handling of the new power was solved in a highly satisfactory manner.

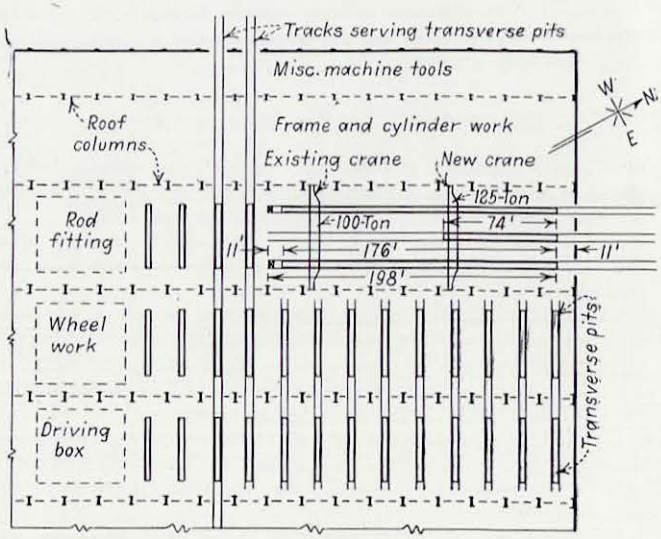
The Existing Layout

The erecting portion of the company's main locomotive shop at Colonie occupies portions of three bays in the northwesterly part of the shop building. These bays extend in a north-south direction and each of them originally contained 13 transverse inspection pits and a traveling crane. Two tracks for handling engines to and from the shop projected into the structure from the west side, these tracks being located at right angles to the bays and parallel with the transverse pits. In each bay of the shop, the center lines of the columns are 65 ft. apart and the transverse engine pits are 45 ft. long.

Since the new 4-6-6-4 locomotives each have an overall length of 85 ft., exclusive of the tender, it was obvious that they could not be handled by the existing facilities in the erecting shop. One proposal that was put forward for adapting the shop to handle the new power was to remove one row of the roof supporting columns to permit transverse pits of the necessary length to be installed. Since this would have entailed the installation of a traveling crane with a span of 130 ft., and the making of extensive changes in the roof-supporting structure, it would have been a complicated and expensive undertaking.

The proposal that was adopted was a much simpler and less expensive solution of the problem. This was, as already noted, to convert one of the three transverse bays to longitudinal operation, the most westerly bay being selected for this purpose. As part of the work of conversion, three longitudinal reinforced concrete engine pits were constructed in the bay, which are served by tracks that extend into the building through doors provided in the northerly wall. The track layout at this location was such that only a relatively small amount of new trackage was required to provide the necessary connections to give locomotives access to the three pit tracks. However, the presence of a low hill on the north side of the main shop necessitated a moderate amount of grading, mostly in shale, in providing the new trackage.

In constructing the three longitudinal engine pits, the two on the outside were each made 176 ft. long, with the



Partial Plan of the Shop, Showing the Location of the Longitudinal Pits

pit tracks extending 198 ft. into the building. Hence, they are each long enough to accommodate two of the 4-6-6-4 type locomotives, with sufficient length left over to permit the front engine unit of one of the locomotives to be rolled out from under the boiler. The middle engine pit is somewhat shorter than the other two, being 74 ft. long, but the track serving this pit is the same length as the others. Those portions of the old transverse pits outside the limits of the new pits were filled in and flooring installed over them. However, four of the transverse pits are located beyond the ends of the new pits, and these were not disturbed.

New Crane Installed

In the original layout one traveling crane with two trolleys was sufficient in each bay to handle locomotives to and from the transverse pits. However, the handling of locomotives in a longitudinal layout requires two cranes, one for each end of the locomotive being lifted. Hence, when the one bay was converted to longitudinal operation, it became necessary to install an additional crane in this bay. The new unit, which has one trolley, has a capacity of 150 tons. The existing crane runways were found to have sufficient capacity to carry the additional load imposed by the new crane; hence, no structural changes were required.

This project was planned and carried out under the general supervision of P. O. Ferris, chief engineer of the D. & H., assisted by E. Penrose, engineer of structures. Except for the grading for the new tracks, which was performed under contract, the work was carried out by company forces under the direct supervision of J. C. Dorsey, division engineer.

Conservation of Solder and Tin

By G. L. Moses and E. A. Fox*

THE loss of the major sources of tin for American industry necessitates the careful conservation of the available supply. Considerable reductions must be made in the amount used of this important material, and every industry must contribute its share by using substitute materials wherever they are suitable.

The railway industry has long been a user of considerable quantities of tin in solders. Pure tin has been used extensively because of its high melting point for soldering Class B** insulated apparatus. In addition, large quantities of the so-called 50-50 tin-lead solder (usually 40 to 45 per cent tin) have been used for all soldered joints in electrical equipment which does not require the higher temperature of operation. Recent orders of the War Production Board restricting the maximum tin content of solders to 30 per cent have led to modifications of existing practices.

For low service temperature applications (under approximately 170 deg. C.) a solder containing 30 per cent tin and 70 per cent lead has been found to be a reasonably good substitute for the 50-50 solders pending development of still lower tin alloys. Although the wetting properties of the 30 per cent tin solder are somewhat inferior, an entirely satisfactory mechanical and electrical joint can be obtained using this alloy, provided somewhat more care is exercised. However, as can be seen from the tin-lead constitution diagram (Fig. 1), a 30 per cent tin solder has a higher flow point or "liquidus" temperature than the 42 per cent tin alloy formerly used for general soldering and therefore requires a higher soldering temperature.

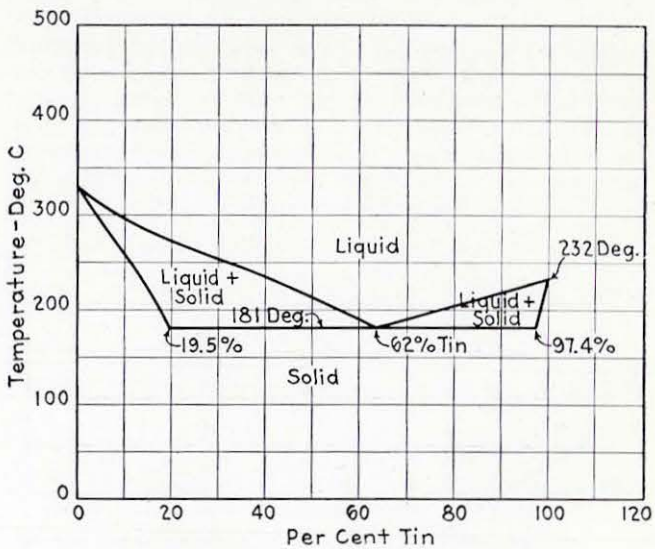


FIG. 1—Tin-Lead Constitution Diagram

In developing a substitute for pure tin solder for Class B apparatus three important factors must be considered. First, the temperature at which the solder begins to melt (solidus temperature) must be at least as high as the melting point of pure tin (232 deg. C.). Secondly, the solder must be suitable for use with a neutral flux of resin and alcohol (or similar solvent) since more active fluxes may leave residues which will damage insulation and corrode metal. Lastly, the flow point or liquidus temperature of any substitute solders must be sufficiently low that the material joined is not injured by soldering temperatures.

A New Solder

A new solder has been developed containing 15 per cent tin, 1 per cent silver, and 84 per cent lead (Westinghouse alloy 8486-1). This has the essential characteristics of a solder containing 15 per cent tin and 85 per cent lead, plus a slight increase in "solidus" temperature through the addition of silver. This new solder, which has a melting range of 233 to 273 deg. C., may be used either for hand soldering in wire and ribbon form or for pot soldering of large commutators. A satisfactory job can be obtained with neutral flux.

Because of its higher flow point (273 deg. C. vs. 232 deg. C. for pure tin) it is necessary to operate solder

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* Mr. Moses is a member of the staff of the insulation section of the Transportation Department of Westinghouse Electric & Mfg. Co., and Mr. Fox of the metallurgical section, Feeder Engineering Department.

** Class B insulation consists of mica, asbestos, fiber glass and similar inorganic materials in built-up form with organic binding substances. It is used for electric and Diesel-electric locomotive traction motors and for similar applications, in which relatively high operating temperatures are encountered. The maximum permissible average temperature rise by resistance for Class B insulation on traction apparatus is 130 deg. C. above room temperature (40 deg. C.); 180 deg. C. maximum hot spot temperature is permissible.

† Class A insulation consists of: (1) cotton, silk, paper and similar organic materials when either impregnated or immersed in a liquid dielectric; (2) molded and laminated materials, with cellulose filler, phenolic resins and other resins of similar properties; (3) films and sheets of cellulose acetate and other cellulose derivatives of similar properties; and (4) varnishes (enamel) as applied to conductors. The maximum permissible "hottest spot" temperature for Class A insulation is 105 deg. C. for general application. (On traction apparatus 135 deg. C. "hot spot" is permissible.)

pots at higher temperatures and to use hotter irons. The operating temperature of the solder pot depends on the volume of solder, its melting point, and heat capacity of the part to be dipped and the frequency of the dipping operation. This usually must be determined experimentally for the particular application. Production experience has shown that, by careful control of soldering temperatures and times, pot soldering of commutator necks may usually be carried out with this new alloy with no damage to the commutator face by annealing of the copper. Further, in "iron" soldering of armature bands, tests have shown that banding wire is not injured by the somewhat higher soldering temperatures, and production experience has indicated that the new alloy to be suitable for many applications of this type. There are apt to be some cases where insulation or other limitations make the substitution impractical.

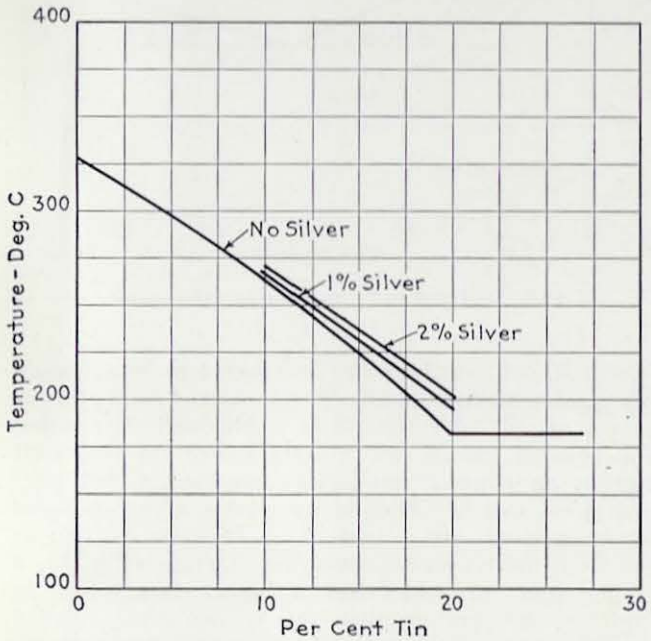


FIG. 2—Lower Melting Point (Solidus Temperature) for Lead-Tin-Silver Alloys

One respect in which this new alloy is superior to pure tin is that it is less susceptible to changes in melting point due to small differences in chemical composition. As can be seen from the tin-lead constitutional diagram, Fig. 1, small percentages of lead in pure tin progressively reduce the "solidus" temperature so that tin containing more than 2.6 per cent lead will throw out of a joint on rotating apparatus at a temperature of approximately 180 deg. C. due to the presence of liquid particles. This clearly indicates the necessity for maintaining tin solder in a pure condition. In hand soldering, this is no serious problem as pure tin solder can be obtained in an extruded size or shape which the workers can easily identify and avoid the erroneous use of other alloys. However, in pot soldering, education of the workers and periodic chemical analyses are necessary to prevent impurities from creeping in. On the other hand, it can be seen from Figs. 1 and 2 that the slopes of solidus curves are less steep for the lead-tin-silver alloys in the range where this new solder falls. Thus small variations in lead, tin and silver contents have comparatively little effect on the solidus temperature.

Another alloy which is being widely publicized in efforts toward tin conservation is a high temperature tinless solder containing 97.25 per cent lead, 2.5 per cent silver and 0.25 per cent copper (Westinghouse alloy 35‡). This material, which has a melting range of 300 deg. C. to 350 deg. C., is suitable for hand soldering where the parts have previously been tinned with a tin-bearing solder such as 30 per cent tin—70 per cent lead or 15 per cent tin—1 per cent silver—84 per cent lead. It requires the use of very hot soldering irons and a special technique. However, once this technique is mastered a very satisfactory job is obtained. It has the advantage of very high melting point and is therefore used on Class B apparatus which is known to be overloaded periodically. However, this solder has not been found satisfactory for pot soldering or commutators except for very small armatures, and then only with special precautions. Because of the extremely high soldering temperatures, pot soldering of commutator necks on large armatures by present methods would result in annealing of the commutator face.

The use of brazing with "Phos-Copper"§ and silver-solders for field coil leads and wiring around frame connections has been extended widely in order to save tin. By going to such processes, there is the additional advantage of obtaining a joint which will withstand even higher operating temperatures than any of the tin or lead solders. Thus, a definite advantage is sometimes obtained from the necessity of conserving tin.

Standard solders which have been used or are now being used for railway apparatus have been tabulated for reference to illustrate their characteristics and applications.

Westinghouse Solder No.	Chemical Composition	Melting Range Deg. C.	Applications
15 ingot 1580 wire and ribbon	42 per cent tin— 58 per cent lead	181-231	Formerly used for general soldering of Class A† railway apparatus and soldering of joints in wiring around frame of Class B apparatus where not exposed to the full Class B temperature.
19	34 per cent tin— 66 per cent lead	181-245	Formerly used only for wiping joints, on plumbing applications.
19-A	30 per cent tin— 70 per cent lead	181-258	Generally substituted for No. 15, No. 19 and No. 1580 solders. See applications above.
1470 ingot 2290 ribbon	Pure tin	232	Formerly used for soldering commutator necks and joints inside coils on all Class B railway motors.
8486-1	15 per cent cent tin— 1 per cent silver— 84 per cent lead	233-273	Replacement for pure tin for soldering of some Class B apparatus. Also for general use to replace No. 19-A in many applications.
35	97.25 per cent lead— 2.5 per cent silver— 0.25 per cent copper	300-350	Special high temperature solder for commutator field coil and banding applications on Class B apparatus known to be overloaded occasionally.
6713 wire	7 per cent phosphorus— 93 per cent copper	710-750	General brazing applications on non-ferrous materials. Self-fluxing on copper.
5090 ribbon	5 per cent phosphorus 95 per cent copper	710-816	

‡ U. S. Patent No. 1699761—Issued January 22, 1929.
§ U. S. Patent No. 1651709—Issued December 6, 1927.

SPAIN TO STANDARDIZE DOUBLE TRACKS.—A plan to standardize double track operation on the Spanish state railway system is in the process of formation, the Railway Gazette (London) reports. Spain has 1,118 mi. of double track line (about 14 per cent of the total route mileage in the system), of which about one-half is arranged for left-hand operation and other half for right-hand running. Further double tracking is contemplated, but a uniform method of operation will be decided on first, and signals, stations, crossovers and other facilities will be altered where necessary to accomplish standardization.

Railroads-in-War News

Seeks WMC Action on Labor Shortage

Eastman calls for "immediate steps" to obtain track workers for West

Prompt action to obtain sufficient track laborers "for the safe maintenance of track and roadway" on "certain Western railroads" has been urged upon the War Manpower Commission by Director Eastman of the Office of Defense Transportation. Mr. Eastman called for a WMC determination as to whether such labor could be obtained from domestic sources; and if the answer is in the negative, he requested that "immediate steps" be taken "to arrange for the importation of labor from Mexico in sufficient numbers to meet the most pressing minimum needs . . . until such time as domestic labor again becomes available."

The ODT announcement of November 20 said that Director Eastman had described the situation as "critical," and that his recent letter to WMC Chairman Paul V. McNutt had called to the latter's attention "the increase in derailments in the Western District in 1942 as compared with 1941." A "considerable part" of the increase, the ODT press release added, "is blamed on inadequate maintenance of way."

The announcement also disclosed that representatives of the railroads and the maintenance-of-way employees "failed to agree on arrangements for the recruitment of Mexican labor" at recent Chicago conferences with government representatives. At that meeting, Mr. Eastman told Mr. McNutt "an effort was made to include in a proposed plan a recognition of the wage problem, together with a recommendation that the existing wage negotiations be expedited and the propriety of granting time and one-half overtime after eight hours of employment" also be determined. Management representatives "were unwilling to include such proposals in the plan."

"Similarly," the Eastman-to-McNutt letter continued, "an attempt was made to obtain an agreement on the importation of Mexican labor under safeguards established by the federal government if sufficient track labor could not be obtained otherwise. Representatives of labor agreed to the recruitment of track labor from Mexico, but as a last resort only and providing also that management should agree on the paragraphs of the proposed plan dealing with wage recommendations. Since the representatives of management would not agree to the proposed recommendations in regard to wages, representatives of labor withheld agreement as to the possible importation of labor from Mexico."

The letter was a follow-through from a previous communication on the same subject which the ODT director had sent to Mr. McNutt on October 20. At that time Mr. Eastman asserted that "the difficulties of manning section and extra gang crews on Western railroads have reached such proportions that quick and effective action is necessary." He went on to say that "if our railroads are to be prepared to carry increasingly heavy transportation burdens, track and roadway maintenance must be on a greater scale than ever before." That October 20 memorandum also pointed out that as of September 15 twelve of the largest Western railroads reported that they had 14,359 current unfilled vacancies among section and extra gang crews.

Likewise, in the earlier communication, Mr. Eastman was said to have mentioned what the ODT press release called "the failure of recruiting programs which have been tried"; and to have discussed two other proposed plans—the recruiting of track labor from pools of unemployed outside the territory of the Western roads, and from Mexican groups. "Whether track labor is recruited from sources within the United States or in Mexico," the ODT director went on, "the railroads affected must guarantee either to Mexicans or to domestic workers certain minimum standards of hours, wages, working conditions, housing, commissary arrangements, medical care, etc."

September Average L.c.l. Load Reaches 20,596 Lb.

The Office of Defense Transportation announced November 18 that 116 Class I railroads had reported for September a new record average load of more than ten and one-fourth tons in l. c. l. cars. Altogether these roads loaded 383,429,000 lb. more l. c. l. freight in September than in August, yet 7,700 fewer cars were required to handle it.

Total loadings in September were 391,064 cars, and the average load was 20,596 lb. This result more than met the requirement of General Order ODT No. 1 that the minimum l. c. l. load after September 1 should be ten tons. The average l. c. l. load in May, when that order first became effective, was 17,858 lb.

On Class II and Class III roads the average l. c. l. load in September was 16,395 lb., as compared with 15,411 lb. in August. On these lines the average l. c. l. load in May was 14,638 lb. The freight forwarding companies in September attained a record average load of 37,703 lb. per car of l. c. l. freight.

"In all cases," the ODT statement points out, "where either Class I roads or short lines failed to reach the load minimum set by the general order, the cars were loaded and operated under one of the eight exceptions to the order."

Treasury Calls For Bigger Bond Sales

Railroads lagging in enrolling workers under payroll deduction plan

More than 100 railroads, including virtually all the large ones were represented at a meeting in Washington, D. C., November 19, called by the U. S. Treasury Department to stimulate the sale of War Bonds through the payroll deduction plan. Representatives of the Association of American Railroads, the Railway Express Agency, the American Short Line Railroad Association, the Pullman Company, and the two principal Canadian railroad systems also were present.

The meeting was one step in a current intensive campaign undertaken by the Treasury to get the largest possible acceptance of the payroll deduction plan before the end of the year. Before its conclusion a resolution was adopted expressing the "unanimous recommendation" of those present that the "railroad industry unite wholeheartedly with the Treasury Department in an effort to secure 90 per cent participation from railroad employees in the sale of War Bonds, through payroll allotments, with a minimum subscription of 10 per cent of individual earnings from every subscriber."

Discussions under the leadership of A. J. Dunn, chief of the railroad section of the Treasury's War Savings staff, included an outline of some of the methods employed and results secured to date in enlisting the support of American industry in the payroll deduction program. It was pointed out that all the standard railroad laber unions have endorsed the program and that practically every railroad has made some arrangement for handling regular payroll deductions for War Bond purchases.

The railroads were the first industry to adopt the payroll deduction plan on a nation-wide basis, but their record in enrolling employees under the plan has been comparatively poor, the meeting was informed. Specifically, of 12 large industries, the railroads ranked ninth in the percentage of employees participating, and last both in the percentage of participants' earnings deducted and in the percentage of aggregate payroll deductions.

Railroad representatives attending the meeting were asked to renew their efforts on their individual roads to improve the comparative standing of the industry and to obtain a substantially complete enrollment of all employees under the plan. In this connection H. D. Ulrich, chairman of the War Savings Bond committee of the Boston & Maine, described the machinery

by which that road became the first in the country with more than 300 employees to allot 10 per cent or more of wages to bond purchases.

Mr. Ulrich and E. J. Gallagher, treasurer of the B. & M., and the Treasury representatives present all contributed to the general discussion of practical questions involved in putting such programs in effect under railroad operating conditions.

Objections offered by employees to signing payroll deduction applications also came in for extended discussion, and it was agreed that delay in the delivery of bonds after purchase is completed has been one of the most serious obstacles to getting more men enrolled. It was pointed out that several roads have overcome this situation to a large extent by becoming issuing agents for the Treasury, and the simplicity with which this can be done was emphasized by the Treasury speakers.

As a contribution to the success of the program, the conference endorsed a 10-point plan "as a guide to be placed into effect immediately on each railroad not yet attaining" the desired enrollment of employees. Incorporated in the plan are the following actions: The road's War Bond committee is to set a date for launching an intensive campaign of personal solicitation; a speakers' bureau is to be set up, and employee meetings are to be arranged on company time; workers at isolated points are to be reached by a traveling inspection car or similar equipment; a subscription card is to be prepared for each employee, and it is to be handed to him at the conclusion of a meeting at which he is present by an individual solicitor who is responsible for not more than 10 employees; reports from solicitors to their local committees and from each committee to the central committee over it are to be made daily, so a daily record of progress can be assembled and made promptly available to solicitors and subscribers; the railroad is to become an issuing agent for the bonds where conditions warrant.

I. C. C. Service Orders

Service Orders Nos. 96 and 97 have been issued by the Interstate Commerce Commission, Division 3, to facilitate the movement of 10 carloads of machinery from Newport News, Va., to Grand Coulee Power Plant, Odair, Wash., and to permit the Missouri Pacific to operate southbound trains over the Louisiana & Arkansas' 42.5-mile line between Georgetown, La., and Tioga, via Packton.

The former order was issued because the machinery could not be transported by established tariff routes. It directs that the movement be made "over routes best suited to the transportation of these shipments," such routes to be designated by the originating carrier "under the supervision of the Association of American Railroads, Car Service Division." Divisions of the rate are to be on a basis agreed upon by participating carriers, or fixed by the commission if no agreement is reached.

The M. P.-L. & A. arrangement covered by Service Order No. 87 will come into operation only at such times as it is necessary "to prevent delay in the movement of railroad equipment, troops, and war materials, and congestion of traffic" on the M. P. main line between Monroe, La., and Alexandria. The order became effective at 12:01 a. m. November 24, and remains in effect "until further order of the commission."

I. C. Foreman Wins Award for Contribution to War

The Chicago Daily Tribune's War Workers Award for October for "an outstanding contribution to America's war effort" was presented to a section foreman, Philip Limardi, of the Illinois Central on November 19. The award, which is given once a month, consists of a solid gold pin studded with three small diamonds. Persons eligible to compete are those employed in Illinois, Indiana and Kenosha and Racine counties in Wisconsin. The award, the fourth to be made, was presented by Col. Robert S. Henry, assistant to the president of the Association of American Railroads. Mr. Limardi's contribution was the suggestion that a No. 8 double slip-switch, which costs $4,000, be replaced by a No. 8 turn-out switch which costs $1,400, that two suburban track crossovers be eliminated and that two short industry spur tracks be salvaged.

In addition to receiving the Tribune award, Mr. Limardi won awards under the railroad's suggestion system, consisting of $265 for the switch replacement, $90 for the crossover elimination and $10 for the spur removal. He also received the War Production Drive Merit Award of the War Production Board for individual production merit.

Would Investigate Certificate of War Necessity Order

Senator O'Mahoney, Democrat of Wyoming, has introduced for himself and Chairman Wheeler of the Senate committee on interstate commerce Senate Resolution 314, which would authorize that committee to conduct an investigation with respect to the Office of Defense Transportation's General Order 21, requiring motor vehicles to obtain certificates of war necessity.

East-Coast Oil Shipments Up in November 14 Week

Tank car shipments of petroleum and petroleum products into the East-Coast area during the week ended November 14 averaged 784,921 barrels a day, an increase of 1.9 per cent above the previous week's daily average of 768,719 barrels, according to Petroleum Coordinator Ickes. In his other role of solid fuels coordinator, Mr. Ickes announced that the November 14 week's all-rail coal shipments into New England totaled 5,564 carloads, a drop of 524 cars as compared with the previous week but an increase of 1,616 cars above the corresponding week last year.

From the Office of Defense Transportation on November 20 came the announcement that Director Eastman has appointed five representatives of tank car lessor owners, shipper owners, and lessees "to serve without compensation as tank car consultants to the director." The appointees are: L. H. S. Roblee, North American Car Company; Robert Rogers, Shippers Car Line Corporation; H. E. Coyl, General American Transportation Corporation; B. C. Graves, Union Tank Car Company; Alfred D. Carleton, Standard Oil Company of California. All are members of the executive committee of the Tank Car Service Committee which was formed in July, 1941, as an advisory body to former Transportation Commissioner Ralph Budd and has continued to serve Mr. Eastman in a like capacity.

Forwarder Freight and ODT's Minimum Loading Orders

Because freight consolidated by forwarding companies into carloads and shipped at carload rates is now under General Order No. 18, which prescribes loading requirements for carload freight, the Office of Defense Transportation has excluded such freight from General Order No. 1, the l. c. l. minimum loading order. The exclusion came in General Order ODT No. 1, Amendment 3, issued November 23.

Trailer Production Halted

Production of all sizes of truck trailers was stopped and the time within which a specified number of heavy trucks may be produced was extended by War Production Board orders issued November 19.

Amendment No. 2 to Supplementary Limitation Order L-1-g redefines the class of truck trailers prohibited by deleting from the definition in the original order the phrase, "having a load-carrying capacity of 10,000 pounds or more." The effect of this omission is to prohibit the manufacture of truck trailers of all sizes.

Amendment No. 1 to Supplementary Limitation Order L-1-h extends the time (originally August 1, 1942, to December 31, 1942) within which the 4,000 heavy trucks authorized under the order may be produced to the period August 1, 1942, to March 31, 1943. It does not increase the number of heavy trucks authorized for manufacture.

Order on "Surplus" Equipment Inventories Modified by WPB

Moving to facilitate redistribution, for the current equipment program, of inventories in the hands of car builders, the War Production Board on November 24 issued a supplemental order, amending Limitation Order L-97-A-1 to broaden the scope of its inventory controls. The amendment extends to the inventories of passenger car builders restrictions which previously applied only to those of freight car builders; and makes the "excess inventories" of both such builders available to locomotive builders.

The "excess inventories" involved are the steel and other materials accumulated by builders in 1941 and early 1942 for the then-projected programs which were curtailed by WPB. Heretofore, such inventories of the freight car builders could be sold only to other freight car builders. Commenting on the broadening amendment,

the WPB announcement said that "the emphasis at present is on the side of locomotive construction," adding that the supplementary order "is expected to accomplish a continuous balancing of inventories by permitting similar sales and exchanges in all departments of the business, including passenger and freight car shops, locomotive works, and parts manufacture."

Previously the announcement had pointed out that no passenger-car production was authorized in the recently-determined 1943 program, which is outlined elsewhere in this issue. Thus the desire to redistribute inventories of materials in the hands of passenger car builders.

I. C. C. Requests Copies of Rate Increase Notices

To keep the Interstate Commerce Commission informed of action taken by carriers and tariff agents in compliance with orders of the Office of Price Administration concerning notices of "general" rate increases, the details of which were outlined in *Railway Age* of November 21, page 856, the commission has issued a notice requesting that tariffs filed with it should be accompanied by a copy of the notice to the OPA or by a statement indicating whether the tariffs contain such increases and whether notice has been filed with the OPA.

First Graduations at Army Transport Officers Schools

Approximately 180 officers who had completed six-weeks courses were graduated on November 20 from the Transportation Corps Officers Training Schools at Fort Slocum, New Rochelle, N. Y., and Camp Stoneman, near Pittsburg, Calif. Major General Charles P. Gross, chief of the Transportation Corps, delivered the commencement address at Fort Slocum.

The commandant at that school is Colonel Bernard Lentz, while the Pacific Coast school is headed by Major Carl E. Berzelius. The next courses will open at both schools on December 3. The first four weeks are devoted to basic military training, and the final two weeks to special training in military transportation methods.

N. H. Affiliate in Bus Revenue Pool Ordered by ODT

The New England Transportation Company, affiliate of the New York, New Haven & Hartford, is a party to the first arrangement for the pooling of revenues ordered by the Office of Defense Transportation. The order (Special Order ODT No. B-32), effective December 4, will coordinate bus services between Providence, R. I., and New Bedford, Mass., via Fall River, the other two carriers involved being Milton Schoenberg, operating as I. C. T. Bus Company, and the Union Street Railway Company of New Bedford.

Under the order, N. E. T. and Union will be required, as nearly as practicable, to operate 64½ per cent of the combined vehicle mileage between the two points, and Schoenberg will operate 35½ per cent. These percentages were reached on the basis of comparative operations of the carriers during the last four years. N. E. T. will pay to Schoenberg 90 per cent of the revenue collected by it and Union from transportation in excess of 64½ per cent of the combined gross revenue, and Schoenberg will pay to N. E. T. 90 per cent of the revenue collected by him from transportation in excess of 35½ per cent of the combined gross revenue.

The companies will honor each other's tickets between all points common to their lines, divert traffic to each other to relieve overloads and reduce the operation of additional equipment in extra sections, and adjust schedules to avoid duplication of times of departure. All through schedules are "frozen." The order is expected to save 5,360 scheduled bus miles a month.

Cars Delayed Awaiting Repair Materials

A recent A. A. R. Mechanical division circular letter points out that excessive delays are being experienced in making repairs to freght and passenger cars on foreign roads, where it becomes necessary to order repair materials from the owners and requests are transmitted by mail. This is true particularly where shops of the car owner of the repairing line are separated by a considerable distance.

Due to the urgent demand for passenger, tank and open-top cars, the circular instructs that when it becomes necessary to request material for repairs to such foreign cars from the car owner, such orders should be transmitted by telegraph, telephone, or air mail, and the material forwarded the same day if possible. Furthermore any material weighing less than 250 lb. gross weight must be shipped by express, as specified in Rule 122.

The same method of handling requests for material should be followed between the repair point where a car is held and the office of the repairing line which transmits such requests to the car owner. The letter emphasizes the importance of this matter under present conditions and urges that it be brought to the attention of supervisors and all others concerned, in order to avoid all possible delay in returning cars to service.

ODT Union-Management Group Proposes Railroad Labor Transfer

A session of the railroad union-management conference, meeting with Office of Defense transportation representatives in Washington November 24, considered problems arising out of the railroad manpower shortage—threatened or already developed in certain localities—and selected a subcommittee to plan detailed procedure for the temporary shifting of railroad employees from places where the labor supply is adequate to spots troubled by shortages.

The subcommittee will make complete plans for arranging for employee leaves of absence for such purposes, for the maintenance of seniority rights by transferred men, for notice to be given men recalled to their original jobs, and for other measures intended to make the available labor supply go as far as possible.

Employees likely to be affected include engineers, firemen, trainmen, shop mechanics and skilled track workers.

The conference also discussed its own working procedure and other pressing problems, such as the fuel supply situation and labor training programs. Suggestions for adding to the railway labor supply by drafting retired employees, importing workers from Mexico hiring more women, and shifting able-bodied men from inside jobs to outdoor work, all were reviewed in the meeting. Plans of the ODT Division of Transport Personnel for expanded railroad labor training programs were explained by E. D. Woolpert of that office.

Freight Tax Can't Be Passed On

Freight rate payers generally must absorb the three per cent tax on amounts paid for the transportation of goods, which becomes effective December 1—the levy imposed under the recently-enacted tax law "must be considered as a freight rate increase which *cannot* be passed on, rather than as a tax which can," the Office of Price Administration has ruled. Exempt from the general ruling is the treatment to be accorded the four-cents-per-ton tax on coal; and the percentage levy with respect to maximum prices on iron and steel scrap, standard newsprint paper, dressed hogs and wholesale pork cuts, and heating boiler conversion parts. Action as to these, the OPA announcement said, "is expected in the near future."

Wine Industry Directed to Make Joint Use of Tank Cars

Acting "to distribute ratably" the burden resulting from the withdrawal of more than 35 per cent of the tank cars normally used for the handling of wine traffic, the Office of Defense Transportation has directed the wine industry to implement a joint-use agreement prepared by ODT, the War Production Board and representatives of the industry. Only about 700 tank cars out of the normally-assigned 1,100 remain available for the wine traffic.

The major reduction came about recently when the industry, responding to an ODT request, agreed to release "for essential war uses" all of the 289 single-compartment cars used in the transportation of wine. Previously, 111 of the wine cars had been transferred to the movement of petroleum, alcohol, vegetable oils and fats, and other essential war commodities. The 700 cars which remain in the wine transportation service, ODT said, are multiple-compartment units "considered unsuited to the transportation of other commodities."

The joint-use agreement calls for appointment by ODT of an administrator to supervise the program. He will be assisted by an advisory committee consisting of representatives of the industry, the car owners or lessors, WPB and ODT. Cars will be assigned as follows: (1) All present wine car leases will be canceled; (2) approximately 125 cars will be reserved for interwinery movements and for use by other

shippers who need cars from time to time; (3) the cars remaining at the disposal of the administrator will be assigned to shippers on the basis of gallonage which each has shipped in interstate commerce in the past.

Improved Victoria-Minas RR to Open New Source of Ore

Brazil has received 3,000 tons of steel rails and 25 freight cars from the United States for use on the Victoria-Minas railroad, according to a report in the Inter-American Economic News. The railroad, which extends from Port of Victoria, in the state of Espirito Santo, to the vicinity of the Itabira iron mines in the state of Minas Geraes, is to be improved in accordance with a United States-Brazilian agreement for the purpose of increasing the flow of ore from the Itabira ore mines to the U. S. The ores from these mines are rated low in both phosphorous and sulphur and have a high iron content, and the development of the mines would be an important asset to steel industries of the United Nations and would offset losses of high-grade iron ore from Scandinavia and continental Europe.

President Vargas of Brazil has signed a decree making official an agreement between the Companhia de Vale de Rio Doce and the Export-Import Bank of Washington for a credit of $14,000,000 for construction of installations, rail connections and docks in connection with the project.

Plans call for increasing the railroad's yearly hauling capacity from about 250,000 tons to 2,500,000 tons. Until Brazil can expand her own steel output, equipment must be supplied mainly by the U. S., and whether or not the above goal is reached will depend largely upon how much equipment the U. S. is able to supply.

Eastman Opens ODT "Don't Travel" Drive

In an appeal to people to stay at home unless there is real need to travel, Director Eastman of the Office of Defense Transportation on November 19 began what is described in an ODT announcement as a "nation-wide drive to keep the American public at home." The statement closely follows Mr. Eastman's suggestion, reported in the Passenger Service Efficiency Number of *Railway Age*, that a program that "informs and appeals for public understanding and help" should precede any attempt at government travel rationing or limitation, and supports the theme of the advertising program lately undertaken by the Association of American Railroads as well as that of a number of individual roads.

"The time is here," Mr. Eastman said, "when all the American people must understand, what many of them now realize, that unnecessary travel can do real and serious harm to the war effort."

"Overcrowding on many rail and bus lines already has become very serious," he added. "With intercity travel by private automobile practically out of the picture and troop movements constantly increasing, conditions will become much worse, unless the American public comes to the rescue.

ODT Authorizes Additional Chicago-Miami Train

Operation of one additional passenger train daily in each direction between Chicago and Miami, Fla., was authorized November 25 by the Office of Defense Transportation. To that extent general order ODT No. 24, which "freezes" passenger schedules, is relaxed to allow increased service for the winter season. The train must include coach and Pullman accommodations. It will run on alternate days over the three routes now operating the Chicago-Miami streamliners, and will serve Florida East Coast points between Jacksonville and Miami.

"There is a great shortage in travel facilities, and those that we have are vitally needed for our military forces and war business. Mere pleasure travel cuts into and robs the supply for those necessary purposes, and will do this more and more as time goes on. The American people can cure this situation if they will. The way to do it is to stay home, unless there is real need to travel. Particularly keep off the crowded routes. It isn't difficult to find out which these are."

Without suggesting exactly how the public should do this, the statement does point out that nation-wide gasoline rationing, to become effective December 1, "will bring new problems to the already heavily burdened rail and bus facilities at a time when pleasure travel would normally be climbing toward the annual midwinter peak. . . . The diversion of automobile passengers to trains and buses in the already rationed areas of the East has brought about tremendous increases in passenger miles operated by the common carriers. The situation is growing steadily worse. In the non-rationed areas, where the pinch has not been so serious up to now, overloading also is inevitable unless the public co-operates in the 'don't travel' drive."

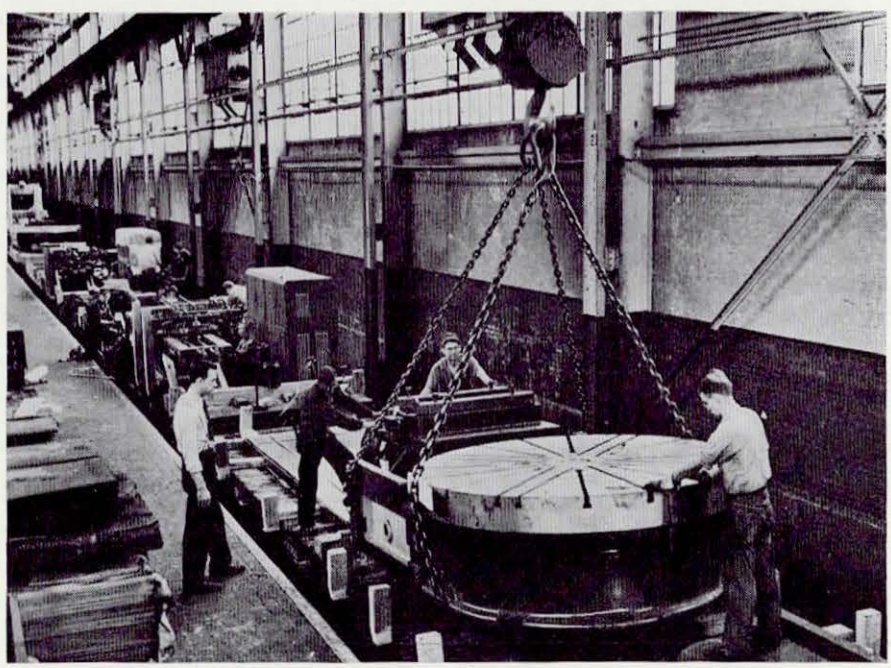
In addition to asking people to forego travel for pleasure over the Thanksgiving holiday, Mr. Eastman stressed the importance of exercising similar restraint at Christmas. "It is not easy," he said, "to ask the American people not to travel at Thanksgiving or Christmas time. Many families look forward through the year to these annual reunions. But I must ask that these family gatherings be foregone this year, if they involve travel.

"A Christmas without travel, at home or away from home, as the case may be, will help win the war. It is a sacrifice that should and must be made."

Speaking of pleasure travel at any time, the ODT director added that "essential civilian travel, the movement of furloughed service men to and from posts, the movement of war workers, and necessary business travel—all must depend on what equipment is left" after the needs for troop movements have been met. "Pleasure travelers crowding into passenger train seats may easily deprive a soldier or an essential civilian traveler who must board a train at the last minute of necessary accommodations. It is my firm conviction that the people of the nation, understanding this critical situation thoroughly, will unite with the Office of Defense Transportation to see that those who must travel are given first chance on our bus and passenger train facilities.

"We all like to travel," the statement continued. "It is not pleasant to do without it. But neither is war pleasant. Bear in mind, also, that in view of the shortage of facilities, there soon will be no pleasure

* * * *



Heavy Machine Tools for War Production Plants Being Loaded onto Flat Cars at a Fisher Body Plant

in traveling. In fact there is very little now. I urge you most earnestly to ask yourself before you purchase a travel ticket or board a bus or train, whether you really need to make that trip. If you cannot conscientiously answer that question in the affirmative, please do not go."

As reported in *Railway Age* of November 14, Mr. Eastman had previously appealed to government agencies in Washington and elsewhere not to grant leaves to civilian employees for travel over the Thanksgiving, Christmas or New Year holidays. Many government offices in Washington did not close for Thanksgiving, and the ODT request was generally effective, it was reported, as it applied to formal leaves. It also was stated that furloughs would be rationed to service men over the holiday periods, so that men who obtained leave for one holiday would not receive it for the others, and efforts were requested to distribute the dates of leaves so as to avoid excessive burdens on transportation.

Materials and Prices

Following is a digest of orders and notices of interest to railroads, issued by the War Production Board and the Office of Price Administration since November 10.

Chrome steel—An amendment of Order M-21-d, issued November 18, permits delivery of corrosion- or heat-resistant chrome steel only on a preference rating of AA-5 or higher and use of such material only if acquired on a preference rating of AA-5 or higher. Previously the order permitted the delivery of chrome steel on preference ratings of A-1-k or higher. The amendment does not affect other orders and regulations which contain restrictive provisions relating to the use and delivery of steel, namely Orders M-21, M-21-a, M-126 and Priorities Regulation No. 13.

Copper—Amendment No. 1 to Conservation Order M-9-c-4, restricting the use of copper and copper base alloy building materials, was clarified on November 18 to explain that the words "to install in or connect to a structure or system" mean to attach or build material to or into a building or other structure or to or into a cooling tower or water tower, water supply or water distribution system or installation; but does not mean to attach or build material to or into a machine such as a heater, refrigerator or other device, except a cooling tower or water tower, which itself has been or may be attached to or built into the structure or to or into an industrial processing system.

Owners of idle stocks of copper and steel who sell directly to authorized war producers, as permitted by Priorities Regulation No. 13, are now required to report such sales if they are from inventories previously listed with WPB, as a result of an order announced November 23.

Electric lamps—Interpretation No. 1 to Order L-28-a, issued November 16, emphasized that lamp purchasers who are not manufacturers cannot have their trade mark or other identification etched on lamps. Lamp manufacturers—whether they produce the lamps themselves or purchase them from someone else—can, to identify their product, use more than one trade mark. The interpretation also pointed out that the restriction on the variety of bases for lamps imposed in Schedule A of the order applies only to the design or shape of the base. Material content of any single type of base for a given lamp can be varied so that it may be made of plated steel, plastics or other permitted materials, provided that the design, shape and size of the base is not changed.

Fence wire—Schedule No. 3 to Limitation Order L-211, issued November 12, permits the manufacture of only one type of barbed wire, compared with eight styles usually obtainable, and reduces from more than one hundred to a very few the permitted types of fencing, netting and flooring. Schedules previous to L-211 (national emergency specifications for steel products) required the simplification of structural steel shapes and railway car wheels. Under the new schedule, no person may produce, fabricate or deliver barbed wire except two-point barbed wire of 14 gage strands and 16 gage barbs, the spacing of the barbs to be not less than 4 in., and no person may supply barbed wire except on 80-rod spools. Woven or welded wire fence, poultry netting or poultry flooring must be made in styles, specifications and rolls set forth in a list; copper may not be used; and no person may apply zinc coating except in accordance with Federal Specification QQ-W-461, Table IV, Weight A, issued June 16, 1941.

Manufacturing—Amendment No. 2 to Priorities Regulation No. 11, issued November 18, relieves companies operating under the Production Requirements Plan from the obligation of cancelling or postponing any order specifying delivery of any listed material before November 21, if the supplier certifies in writing that the material cannot be diverted to fill other orders or the material has been completed or that cancellation would cause substantially diminished production by disrupting schedules. With this exception, PRP units are required upon receipt of their certificates to cancel or defer orders which would exceed the amounts they are authorized to receive. The period of time within which a PRP unit must cancel or postpone its purchase orders so that the ratings and quantities do not exceed authorization on its PRP certificates is extended to seven days, including Sundays, after receipt of the particular certificate, instead of five working days. A PRP unit may accept delivery of material in excess of its authorization if the materials were in transit when the supplier received notice of cancellation or postponement, provided such notice was received by the supplier not later than ten days after receipt of the unit's certificate. A PRP unit may also accept delivery of materials in excess of those authorized on its PRP certificate to the extent that it is entitled to extend AAA ratings. A PRP unit, which filed an application for ratings for materials to be used during the second quarter of 1943 on Section H of the first quarter PD-25A application, may now employ the interim procedure, pending the return of its PD-25A for the first quarter. Any PRP unit which receives during a quarter any listed material in excess of the quantities authorized by its PRP certificates or by specific authorization must report such receipts promptly, together with a statement of the reasons why such receipts were necessary and citing the provisions in Regulation 11 which permit such receipts. The amendment also revises the Metals List of Regulation 11 to include only those items appearing in Materials List No. 1, revised, of the PD-25A application form for the first quarter of 1943.

Rail steel—Railroads and other steel consumers were requested November 10 by the chief of the iron and steel branch to use, wherever possible, steel made by the Bessemer process or rerolled from old rails, instead of steel made by the open-hearth process. Bessemer steel is available in many products, including bars, plates, shapes, sheets, strip, pipe, wire products and track accessories. Rail steel bars, which are rolled from old railroad rails, also are adaptable for purposes for which open-hearth steel now is being used. Such uses include reinforcement of concrete and agricultural implements.

Tin ware—Order L-30-a, effective November 12, requires the reduction of galvanized ware from 150 articles of all sizes and kinds now manufactured to 6 articles of only a few sizes by January 1. The order also applies to products of iron or steel which have plain, japanned, painted, lithographed or lacquered finishes. The order cuts off the production of liquid and dry measures, dippers, ash sifters, coal hods and scuttles, utility baskets and rubbish and ash receptacles, except cans and pails of specified sizes. For the next two months, the order permits the manufacture of garbage cans and pails, pails and buckets, wash tubs, fire buckets, wash boilers, fire shovels, funnels, refrigerator pans and kerosene storage containers. Dimensions, number of sizes which may be made by any manufacturer, and the gage of the steel which may be used in the permitted items are listed in a schedule. The order prohibits production of fire shovels more than 22 in. long and is applicable to kerosene containers of 1 to 5 gal. capacity. Effective January 1, output of galvanized ware will be cut further to allow manufacture of only six products—garbage cans, garbage pails, wash boilers, fire shovels, pails and wash tubs. Pails, buckets and tubs designed especially as packing or shipping containers are not affected by the order. Approximately 270 manufacturers are affected by the order. Exempted from the order are articles which on November 12 had been cut or blanked to size, so long as they are completed before December 7, except for the application of zinc or other coating and the attachment of bails, handles, spouts or ears, which may be done later.

Prices

Coal furnaces—Maximum Price Regulation No. 272, effective November 23, fixes maximum prices for cast iron coal-burning and oil-burning boilers and for radiators at levels generally 5 per cent below prevailing prices in the case of boilers and 12 per cent below in the case of radiators. Boiler and radiation prices are based on prices prevailing from October 1 to October 15, 1941, which were considered representative for the industry. The ceilings were increased slightly over that level in recognition of changes in cost of production, distribution, transportation and other factors of general applicability. Maximum prices for radiation are expressed specifically on a dollars-and-cents basis according to the size and type of radiation unit. For boilers, maximum prices are established at 95 per cent of manufacturers' price lists of specified dates in January and February, 1942. The regulation requires manufacturers to continue the prevalent discounts to jobbers, which are 20 and 5 per cent on boiler sales and 15 and 5 per cent on radiation.

Machinery—Amendment No. 54 to Maximum Price Regulation No. 136 as amended, effective November 25, is designed to simplify the calculation of maximum prices for used machines and parts. In calculating the price of a used machine or part, the seller now shall first ascertain the maximum price, f.o.b. factory, of the nearest equivalent new machine. If the used machine is sold, rebuilt and guaranteed, the maximum price for the used machine, f.o.b. the seller's place of business, shall be 85 per cent of the maximum price, f.o.b. factory, of the nearest equivalent new machine. If the used machine is sold on an "as is" basis, the maximum price for the used machine, f.o.b. the seller's place of business, shall be 55 per cent of the maximum price, f.o.b. factory, of the nearest equivalent new machine. Previously, by interpretation, the maximum price of the used machine or part was based on the delivered price of the new machine in the area of sale. The new price-determining basis, in addition, brings calculations in line with Revised Price Schedule No. 1, which has always based maximum prices for second hand machine tools on f.o.b. list prices for new machine tools.

Waste paper—Maximum Price Regulation No. 30, effective November 27, replacing Revised Price Schedule No. 30 as amended, adds two new waste paper grades—old kraft corrugated containers and mill wrappers; while six grades are eliminated as separate grades, but included as qualities of other grades. Other changes provide a more flexible method of making allowances for added costs of baling waste paper for export and maximum prices of imported waste paper on the basis of f.o.b. port or city of entry rather than f.o.b. seller's door. Except in the case of book stock grades and two of the corrugated grades, the new regulation does not change the level of specific price ceilings which has prevailed under the old schedule.

A DIESEL TRAIN of the Central Railroad of Brazil recently completed a round-trip from Rio de Janeiro to Sao Paulo using Diesel oil extracted from bituminous coal deposits from the State of Rio Grande de Sul, according to the Inter-American Economic News. The new motor fuel is reported to have given ample satisfaction.

GENERAL NEWS

Eastern Presidents Survey Equipment

Williamson issues statement following meeting on November 19

F. E. Williamson, president of the New York Central and chairman of the Eastern Railroad Presidents Conference, made the following statement after a meeting of the Conference on November 19:

"Carloadings, long regarded as a barometer of railroad transportation performance, do not now express the full extent of the traffic load. During the first 40 weeks of this year, while carloadings were but 3 per cent above the comparable period of 1941, the volume of freight moved, measured in tons carried one mile, was 31 per cent greater. This was due to heavier loading of cars and the longer hauls involved in the movement of traffic formerly carried by water.

"As we approach the end of the first full year of our country's active participation in the war, railroad men are looking to 1943. On the basis of information now available, it is estimated that the volume of freight traffic, in ton-miles, will be about 15 per cent greater than in 1942. Passenger traffic (in 1942 nearing the all-time peak of 1920) is expected in 1943 to reach a new high level.

"Cars and locomotives constitute the key to mobility on the railroads. All that are available have been subjected to most intensive use in meeting the greatly expanded demands for rail transportation since 1939. It becomes increasingly clear, however, that the limit of their capacity has been almost reached.

"Railroad men are deeply concerned, not only with the urgent need of materials with which to maintain this equipment at maximum efficiency and to prevent deterioration of tracks and other facilities, but also with the pressing need of enough additional cars and locomotives to do the greater job that looms ahead.

"The maintenance of adequate rail transportation is imperative to assure the production and delivery in the required volume of the materials so urgently needed in the prosecution of the war."

Xmas Boxes for Men in Service

Approximately 1,300 Christmas boxes are being shipped by the Pullman Company to its employees who are in the armed forces. Each package contains two boxes of candy, a fruit cake, 50 cigarettes, a deck of playing cards and a "jeep" kit containing a comb and brush, a tooth brush, paste and powder, a razor, blades, shaving soap and styptic pencil, a clothes brush, a sewing kit and a bar of soap.

New Haven employees in the armed services will in so far as the company has their addresses, each receive a Christmas gift from the trustees. Each box contains a fruit cake, razor blades, salted peanuts, shaving cream, deviled ham, hard candy, cigarettes, candied fruit, raisins, a pocket bible, a 4-leaf-clover charm, and a 500-page joke-and-mystery book. The November issue of "Along the Line," N. H. employees' magazine, lists the names of all employees in service—according to whether the road has their addresses, or not—and friends are asked to supply the addresses where lacking.

Rio Grande Purchases Office Building in Denver

The Denver & Rio Grande Western has purchased and is remodeling an office building at 1531 Stout street, Denver, Colo. The work should be completed by December 1 and the new address after that date of all the Rio Grande forces in Denver will be: Rio Grande Building, 1531 Stout street, Denver, Colo.

R. B. White to Address Baltimore Meeting of Newcomen Society

R. B. White, president of the Baltimore & Ohio, will be the guest of honor and speaker at the dinner meeting of the Baltimore Committee of the Newcomen Society of England to be held at the Belvedere hotel, Baltimore, Md., on December 2. Dr. Isaiah Bowman, president of Johns Hopkins University, chairman of the Baltimore Committee, will preside.

R. B. A. Issues Supplement to Book on Railway Labor

The Railway Business Association, Chicago, has issued a supplement to its book entitled "Railways and Organized Labor," by P. Harvey Middleton, published in 1941. The book included discussion of the railway wage controversy of 1941, up to the recommendations of the Emergency Board on November 5. The supplement, which will be Chapter X of the book, completes the record of the wage case, from the rejection of the recommendations of the Emergency Board up to the agreement of December 1, 1941, and includes the record of official action in regard to increases of passenger and freight rates granted by the Interstate Commerce Commission on January 21 and March 2, 1942, as a direct result of that controversy.

An additional chapter—XI—devoted entirely to the wages and rules controversy of the Toledo, Peoria & Western, which has been operated by a federal manager since March 21 of this year, has also been added.

WLB Okays Short Line Wage Boost

The Emergency Board finding of September 14 doesn't block "stabilization"

In a "directive order" made public November 18, the National War Labor Board has indicated its attitude that the Executive Order of the President of October 3, making effective the so-called Anti-Inflation Act extending government control over certain price, rate and wage increases, gives that board authority to review Emergency Board recommendations in railway wage cases made under the provisions of the Railway Labor Act. It is understood that procedures for reconciling the requirements of the executive order and the Railway Labor Act have been under study at the War Labor Board, and it has been suggested that an order giving effect to its conclusions may be issued this week.

The purpose of the WLB order of November 18 was to give its approval to the recommendations of an Emergency Board appointed to consider a controversy over wages and vacation pay between a group of railroads—mostly short lines—and certain of their non-operating employees. The recommendations of this board were announced September 14, as reported in *Railway Age* of September 19, page 460. Some of the railroads concerned had put into effect the increases recommended by the board before the President's order of October 3 was issued, and the present WLB order clarifies the position of the other carriers involved by giving them authority to make the wage increases under the terms of the Anti-Inflation Act.

In its order the War Labor Board not only approves the Emergency Board recommendations, but also extends them to cover all carriers subject to the Railway Labor Act, without regard to whether they were parties to the particular controversy reviewed by the Emergency Board. In other words, any carrier may put into effect the wage and paid vacation provisions approved by the Emergency Board without further authority, so long as it does not exceed the limits set by those recommendations, and carriers "may achieve partial, gradual, or complete conformity" with the board's findings.

The WLB order specifically points out, however, that it "does not direct any carrier to grant any specific wage increase," but constitutes approval of any agreement entered into between carriers and their employees so long as it does not exceed the Emergency Board recommendations.

A statement by J. J. Pelley, president of

the Association of American Railroads, was issued shortly after the WLB order became public to emphasize the fact that the order does not apply controversies as to wage and differential "adjustments" now pending between Class I railroads and operating unions.

Chicago Car Foremen Announce December Meeting

Harry A. Dodge, sales engineer of the Harbor Plywood Corporation, will present a paper at the December 14 meeting of the Car Foremen's Association of Chicago on The Manufacture and Use of Plywood in Refrigerator Cars. The paper will be accompanied by a moving picture designed to show all phases of car construction utilizing plywood and also will include a color picture illustrating how fruits and vegetables are gathered and loaded in all-plywood refrigerator cars.

Commodity Statistics Reports on Monthly Basis

Beginning with the returns for October, 1942, the railroads must make their reports of freight commodity statistics and freight commodity statistics by geographic areas to the Interstate Commerce Commission each month instead of quarterly. The change, required in a commission order dated November 13, is understood to have resulted from desires of the Office of Defense Transportation and the War Production Board for more current figures with which to do their forecasting.

R. C. C. Distribution

The Railroad Credit Corporation, on November 30 will make a liquidating distribution of $366,803.52 or one-half of one per cent of its fund as of October 31. Of this amount $328,025.09 will be paid in cash and $38,778.43 will be credited on carriers' indebtedness to the Corporation.

This will bring the total amount distributed to $63,910,966.04, or 87 per cent of the original fund contributed by carriers participating in the Marshalling and Distributing Plan, 1931. Of this total, $35,650,504.90 will have been returned in cash and $28,260,461.14 in credits.

Burlington Places New Hump Yard in Service

Full-scale operation of its recently completed hump yard at Galesburg, Ill., was initiated by the Chicago, Burlington & Quincy on November 18. Construction of the yard was begun on June 6, under authorization of the War Production Board as a strategic wartime project. The new facilities include a hump with electropneumatic switches and 17 car retarders, 35 classification tracks and 10 departure tracks for west and southbound movements. It is estimated that the hump will save 104,025 freight-car days annually.

Express Agency Seeks Shippers Aid to Combat Frost Damage

The Railway Express Agency has asked the co-operation of shippers of perishable commodities to prevent damage in transit by frost during the winter months. While adequate temperature control is possible during handling on trains and in express terminals, it is often necessary to haul such shipments by motor vehicles or sleighs in cities and towns and on platform trucks between trains and stations.

The Express Agency has asked shippers to provide extra "protective packing" for all products susceptible to frost damage. It is also recommended that they attach "perishable" labels to all wrapped shipments of such commodities. Such markings would put express employees on guard to keep this traffic out of freezing temperatures where possible.

October Operating Revenues 41.5 Percent Above 1941

Preliminary reports received by the Association of American Railroads from 85 Class I roads, representing 81.2 per cent of total operating revenues, show that those roads, in October, had estimated operating revenues amounting to $595,015,347, compared with $420,465,116 in the same month of 1941, or an increase of 41.5 per cent.

Freight revenues of the 85 roads in October amounted to $471,730,462 compared with $355,988,961 in October, 1941, or an increase of 32.5 per cent. Passenger revenues totaled $85,326,815 compared with $35,693,679 in October, 1941, or an increase of 139.1 per cent.

Equipment Installed

Class I railroads put 58,346 new freight cars in service in the first 10 months of 1942, according to the Association of American Railroads. The total included 33,848 box, 20,832 coal, 1,814 flat, 619 refrigerator, 100 stock, and 1,133 miscellaneous freight cars.

New freight cars on order on November 1 totaled 30,004, compared with 80,504 on the same day last year, the former figure including 9,721 box, 16,608 coal, 2,167 flat, 800 refrigerator, 200 stock, and 508 miscellaneous freight cars.

Locomotives installed in this year's first 10 months totaled 638, of which 258 were steam and 380 were electric and Diesel-electric. In the same period last year 493 new locomotives were put in service, of which 117 were steam and 376 were electric and Diesel-electric.

New locomotives on order on November 1 totaled 779, which included 289 steam and 490 electric and Diesel-electric. On November 1, last year, there were 611 on order, including 284 steam and 327 new electric and Diesel-electric.

Trucks Will Get December Gas Without Certificates

Provision has been made for motor truck operators to secure temporary gasoline rations for the month of December if their Certificates of War Necessity have been applied for but not received. The same provision, embraced in Amendment No. 1 to Ration Order No. 5C of the Office of Price Administration, applies also to operators of buses, taxis, and other commercial vehicles. Operators affected by the provision are advised by the OPA announcement to apply at their local War Price and Rationing Boards for temporary T rations for the amount of gasoline they estimate they will require through December 31. The amount provided in this way will be deducted later from the allowance of gasoline provided in the certificate issued by the Office of Defense Transportation.

It also was announced November 23 that the holder of temporary rations under this provision or any holder of an ODT certificate who is dissatisfied with the amount of gasoline allotted to him may apply to the ODT office in his district for a revised Certificate of War Necessity.

Correction and Amplification

In the last paragraph of the article entitled, "Modern Power Carries the Burden of Today's War Traffic," which begins on page 839 of the November 21 issue of the *Railway Age* appears the statement, "modern Diesel units are running 2,000 miles a month." This is a typographical error and should read, 20,000 miles a month.

In the November 7 issue, page 747, a heading read "Tank Cars Should Get Steel Wheels." As the text under this heading made clear, what was intended was that defective cast-iron wheels should be replaced with wrought-steel wheels.

Class Rate Investigation Resumed

The class rate investigation instituted by the Interstate Commerce Commission on its own motion in orders dated July 29 and August 1, 1939, was resumed at Columbus, Ohio, on November 16. The object of the investigation is to determine whether the structure can be simplified and made uniform throughout the United States. After a long delay the first hearing was held at St. Louis, Mo., on July 10 and 11. The second was held at Indianapolis on September 19-October 1.

In order to conclude the hearing at Columbus within a reasonable time, testimony was taken on Thanksgiving day. Among those testifying were representatives of the railroads, shippers and Southern governors.

Truck Freight at "All-Time Peak" in October

The volume of freight transported by motor carriers reached "a new all-time peak" in October, increasing six per cent above September and 12.8 per cent above October, 1941, according to American Trucking Associations. The A. T. A. index figure, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 185.91 as compared with September's 180.27.

Comparable reports were received from 201 motor carriers in 41 states. They reported an aggregate of 1,557,156 tons, as against 1,468,819 tons in September, and 1,380,229 tons in October, 1941.

A little more than 85½ per cent of all tonnage transported in the month was reported by carriers of general freight. The volume in this category increased 6.2 per cent over September, and 9.4 per cent over October of last year. Transporters of petroleum products, accounting for a little more than 10 per cent of the total, showed an increase of 4.2 per cent over September, and 60.8 per cent over October, 1941. Haulers of iron and steel products reported approximately one per cent of the total tonnage; their volume was up 13.2 per cent

entrance into foreign service. The formation of the battalion was started last summer when its officers were put through a refresher course at the Engineer Replacement Training Center at Ft. Leonard Wood, Mo. The battalion was activated on September 1 and officers and men were ordered to Camp Claiborne for training.

The personnel of the battalion consisted of 20 officers and more than 1,000 men taken from the operating forces of the Southern Pacific and other railroads, but when the battalion was moved to San Antonio, the number of men was reduced to battalion requirements. The officers of the 719th are as follows:

Grade	Name	Last position on S. P.
Lt. Col.	Robert F. Williams	Trainmaster at Lafayette
Maj.	Lee F. Tadlock	Terminal supt. at El Paso
Capt.	Milton C. Jones (bat. adj.)	Sec. to v. p. & g. m. at Houston
Capt.	Ernest V. Purdy (sup. off.)	Gen. storkpr. office at Houston
Capt.	Leslie B. McDonald	Sec. to supt. at Houston
Capt.	James N. Fuller	Roadmaster at Austin
Capt.	Hilmar H. Jacobson	Rdhse. foreman at Beaumont
Capt.	Thomas J. Womack	Trainmaster on San Antonio div.
Lt.	Martin H. Read	Train dispr. on Lafayette div.
Lt.	Roy J. Nester	Asst. sig. supvr., Lafayette div.
Lt.	John E. Shaw, Jr.	Sec. foreman at Kenedy
Lt.	William H. Vick	Overseer roundhse. at Ft. Worth
Lt.	Sam L. Gillespie	Rdhse. foreman at Tucson
Lt.	Charles L. Budgeforth	Airbrk. supvr. at Houston shops
Lt.	Charles G. Cook	Trav. engr. at San Antonio
Lt.	Joseph J. Winter	Trainmaster, Victoria div.
Lt.	Gene F. Blake	Brakeman
2nd Lt.	Marvin D. Kelly	Frt. condr. at Sanderson
2nd Lt.	Joseph B. Ciulla	Chf. clk. to gen. 4-man, Houston
2nd Lt.	Raymond L. Laurent	Instman. at Lafayette

A number of the officers have had previous war experience. Lt. Col. Williams served in the Quartermaster corps, Major Tadlock served in the Engineer corps in France; Captains Jones, Womack and Jacobson served in the Navy and Captain Fuller served with the combat engineers in World War I.

The training of the men has covered both railway operation and combat service. Although railway operating battalions are not normally a combat force in the Army, the unit has been trained in the manual of arms, the handling and use of rifles and side arms and combat tactics to meet emergencies. The men have also been drilled in maintenance and operation, learning to build, tear down and dismantle a railroad, construct bridges, build, repair and tear down locomotives, handle signals and dispatch trains under the most difficult conditions. At San Antonio the battalion is receiving its final phase of training on Southern Pacific tracks under an arrangement with the Army.

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the Association of American Railroads, was issued shortly after the WLB order became public to emphasize the fact that the order does not apply controversies as to wage and differential "adjustments" now pending between Class I railroads and operating unions.

Chicago Car Foremen Announce December Meeting

Harry A. Dodge, sales engineer of the Harbor Plywood Corporation, will present a paper at the December 14 meeting of the Car Foremen's Association of Chicago on The Manufacture and Use of Plywood in Refrigerator Cars. The paper will be accompanied by a moving picture designed to show all phases of car construction utilizing plywood and also will include a color picture illustrating how fruits and vegetables are gathered and loaded in all-plywood refrigerator cars.

Commodity Statistics Reports on Monthly Basis

Beginning with the returns for October, 1942, the railroads must make their reports of freight commodity statistics and freight commodity statistics by geographic areas to the Interstate Commerce Commission each month instead of quarterly. The change, required in a commission order dated November 13, is understood to have resulted from desires of the Office of Defense Transportation and the War Production Board for more current figures with which to do their forecasting.

R. C. C. Distribution

The Railroad Credit Corporation, on November 30 will make a liquidating distribution of $366,803.52 or one-half of one per cent of its fund as of October 31. Of this amount $328,025.09 will be paid in cash and $38,778.43 will be credited on carriers' indebtedness to the Corporation.

This will bring the total amount distributed to $63,910,966.04, or 87 per cent of the original fund contributed by carriers participating in the Marshalling and Distributing Plan, 1931. Of this total, $35,650,504.90 will have been returned in cash and $28,260,461.14 in credits.

Burlington Places New Hump Yard in Service

Full-scale operation of its recently completed hump yard at Galesburg, Ill., was initiated by the Chicago, Burlington & Quincy on November 18. Construction of the yard was begun on June 6, under authorization of the War Production Board as a strategic wartime project. The new facilities include a hump with electro-pneumatic switches and 17 car retarders, 35 classification tracks and 10 departure tracks for west and southbound movements. It is estimated that the hump will save 104,025 freight-car days annually.

Express Agency Seeks Shippers Aid to Combat Frost Damage

The Railway Express Agency has asked the co-operation of shippers of perishable commodities to prevent damage in transit by frost during the winter months. While adequate temperature control is possible during handling on trains and in express terminals, it is often necessary to haul such shipments by motor vehicles or sleighs in cities and towns and on platform trucks between trains and stations.

The Express Agency has asked shippers to provide extra "protective packing" for all products susceptible to frost damage. It is also recommended that they attach "perishable" labels to all wrapped shipments of such commodities. Such markings would put express employees on guard to keep this traffic out of freezing temperatures where possible.

October Operating Revenues 41.5 Percent Above 1941

Preliminary reports received by the Association of American Railroads from 85 Class I roads, representing 81.2 per cent of total operating revenues, show that those roads, in October, had estimated operating revenues amounting to $595,015,347, compared with $420,465,116 in the same month of 1941, or an increase of 41.5 per cent.

Freight revenues of the 85 roads in October amounted to $471,730,462 compared with $355,988,961 in October, 1941, or an increase of 32.5 per cent. Passenger revenues totaled $85,326,815 compared with $35,693,679 in October, 1941, or an increase of 139.1 per cent.

Equipment Installed

Class I railroads put 58,346 new freight cars in service in the first 10 months of 1942, according to the Association of American Railroads. The total included 33,848 box, 20,832 coal, 1,814 flat, 619 refrigerator, 100 stock, and 1,133 miscellaneous freight cars.

New freight cars on order on November 1 totaled 30,004, compared with 80,504 on the same day last year, the former figure including 9,721 box, 16,608 coal, 2,167 flat, 800 refrigerator, 200 stock, and 508 miscellaneous freight cars.

Locomotives installed in this year's first 10 months totaled 638, of which 258 were steam and 380 were electric and Diesel-electric. In the same period last year 493 new locomotives were put in service, of which 117 were steam and 376 were electric and Diesel-electric.

New locomotives on order on November 1 totaled 779, which included 289 steam and 490 electric and Diesel-electric. On November 1, last year, there were 611 on order, including 284 steam and 327 new electric and Diesel-electric.

Trucks Will Get December Gas Without Certificates

Provision has been made for motor truck operators to secure temporary gasoline rations for the month of December if their Certificates of War Necessity have been applied for but not received. The same provision, embraced in Amendment No. 1 to Ration Order No. 5C of the Office of Price Administration, applies also to operators of buses, taxis, and other commercial vehicles. Operators affected by the provision are advised by the OPA announcement to apply at their local War Price and Rationing Boards for temporary T rations for the amount of gasoline they estimate they will require through December 31. The amount provided in this way will be deducted later from the allowance of gasoline provided in the certificate issued by the Office of Defense Transportation.

It also was announced November 23 that the holder of temporary rations under this provision or any holder of an ODT certificate who is dissatisfied with the amount of gasoline allotted to him may apply to the ODT office in his district for a revised Certificate of War Necessity.

Correction and Amplification

In the last paragraph of the article entitled, "Modern Power Carries the Burden of Today's War Traffic," which begins on page 839 of the November 21 issue of the *Railway Age* appears the statement, "modern Diesel units are running 2,000 miles a month." This is a typographical error and should read, 20,000 miles a month.

In the November 7 issue, page 747, a heading read "Tank Cars Should Get Steel Wheels." As the text under this heading made clear, what was intended was that defective cast-iron wheels should be replaced with wrought-steel wheels.

Class Rate Investigation Resumed

The class rate investigation instituted by the Interstate Commerce Commission on its own motion in orders dated July 29 and August 1, 1939, was resumed at Columbus, Ohio, on November 16. The object of the investigation is to determine whether the structure can be simplified and made uniform throughout the United States. After a long delay the first hearing was held at St. Louis, Mo., on July 10 and 11. The second was held at Indianapolis on September 19-October 1.

In order to conclude the hearing at Columbus within a reasonable time, testimony was taken on Thanksgiving day. Among those testifying were representatives of the railroads, shippers and Southern governors.

Truck Freight at "All-Time Peak" in October

The volume of freight transported by motor carriers reached "a new all-time peak" in October, increasing six per cent above September and 12.8 per cent above October, 1941, according to American Trucking Associations. The A. T. A. index figure, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 185.91 as compared with September's 180.27.

Comparable reports were received from 201 motor carriers in 41 states. They reported an aggregate of 1,557,156 tons, as against 1,468,819 tons in September, and 1,380,229 tons in October, 1941.

A little more than 85½ per cent of all tonnage transported in the month was reported by carriers of general freight. The volume in this category increased 6.2 per cent over September, and 9.4 per cent over October of last year. Transporters of petroleum products, accounting for a little more than 10 per cent of the total, showed an increase of 4.2 per cent over September, and 60.8 per cent over October, 1941. Haulers of iron and steel products reported approximately one per cent of the total tonnage; their volume was up 13.2 per cent

over September, but down 5.1 per cent under October, 1941. Slightly more than three per cent of the total was miscellaneous commodities, including tobacco, milk, textile products, bricks, building materials, cement and household goods. Tonnage in this class showed an increase of 5.5 per cent over September, and 6.4 per cent over October of last year.

Representation of Employees

National Mediation Board reports on results of recent elections in representation of employees disputes show that the Switchmen's Union of North America and the Brotherhood of Railroad Trainmen fought to a five to five tie a contest for the right to represent switch tenders of the Columbus, Ohio, Union Depot. The Board closed the case without certification, although the employees involved were represented by the B. of R. T. when the Switchmen applied for an election.

Power directors and assistant power directors on the Long Island have chosen the American Train Dispatchers Association, while Baltimore & Eastern agents chose the Order of Railroad Telegraphers. On the Wabash, the Licensed Tugmen's Protective Association, International Longshoremen's Association, has supplanted the National Organization Masters, Mates and Pilots of America as the representative of masters on car ferries. On the Tennessee Central, the International Brotherhood of Firemen, Oilers, Helpers, Roundhouse and Railway Shop Laborers has extended its coverage of shopmen to include power house employees.

A Route to Rubber?

The 228-mile Madeira-Mamore railway deep in the interior of tropical Brazil, which was built at the height of the Amazon rubber boom 30 years ago, may prove of vital importance in the co-operative inter-American program for the development of rubber resources in this hemisphere, according to the Inter-American Economic News.

The railroad was started in 1907 and completed in 1913 after six years of extremely difficult construction through the jungle. It was originally built to by-pass rapids and cataracts along the Madeira and Mamore rivers, tributaries of the Amazon, near Porto Velho, about 2,000 mi. up the Amazon river. The road is still in service. It has a single track of one-meter gage and uses steam locomotives. According to the latest available statistics, it has 14 locomotives (2 of them purchased in the U. S. as recently as 1940), 10 passenger cars and 184 freight cars, mostly of 18-ton capacity.

The road has been running on a one-train-a-week schedule and the running time from Porto Velho to Guajara-Mirim on the Bolivian border is about four days. Until 1930 the road was operated by British interests; since that time it has been taken over by the Brazilian government.

Passenger Travel "Rationing" in England

"Rationing" of passenger travel in England has been considered and rejected by the Transport Ministry, according to the Railway Gazette (London). The idea was turned down for three reasons, namely, the complexity of such a system, the demands it would make on manpower, and the inconvenience it would cause to those who have to travel on necessary business. The Ministry, however, made clear that a further extension of restrictions on passenger travel might be necessary unless the public shows greater co-operation in economizing the use of transportation.

The number of occasions upon which "voucher travel" is granted to members of the armed forces, evacuated civil servants and to parents and relatives of evacuated children and families have already been reduced. Since October 5 reduced rate tickets for various classes of pleasure travel have been discontinued. In addition, round-trip tickets now issued in certain districts at fares less than the monthly ticket rate have been withdrawn. Workmen's fares and various types of concession fares to particular classes, such as blind persons and their attendants, have not been affected.

Motor Carrier Fire Accidents

The Interstate Commerce Commission has made public a report on "Motor Carrier Fire Accidents 1940" which was prepared in the Bureau of Motor Carriers' Section of Safety. Its author is B. G. Milster, assistant mechanical engineer of the section who worked "under the general supervision" of G. R. Wellington, the section's chief.

The analysis showed, among other things, that fire was involved in 2.6 per cent of all 1940 accidents, i. e., 351 out of 13,554. Also, that 7.98 per cent of all fatalities, 1.92 per cent of all personal injuries, and 23 per cent of all property damage resulted from fire accidents; and that the average fire accident resulted in the death of 0.228 persons, injury to 0.553 persons, and $3,713 property damage, compared with the average for all motor carrier accidents in 1939 of 0.162 deaths, 1.34 injuries, and $620 property damage.

In order "to prevent fires or to decrease the damage resulting therefrom," the report recommends that: (1) Brake performance be improved; (2) more adequate provision be made against gasoline spillage; (3) gasoline tanks be relocated and/or redesigned; (4) such accidents be more carefully and thoroughly investigated.

Train-Service Brotherhoods Launch Wage Movement

The five train and engine service brotherhoods last week launched their movement for increased wages with an announcement that their general chairmen had been summoned to meet for a discussion of the matter at the Hotel Morrison, Chicago, on December 7. Participating in that meeting, which will draft the wage program, will be the Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen and Enginemen, Order of Railway Conductors, Brotherhood of Railroad Trainmen, and the Switchmen's Union of North America.

"Hundreds of general chairmen from every railroad in the United States," the announcement said, "have been summoned to the conference by the chiefs of the five organizations. The program to be drawn up will give due regard to the act of Congress and the President's executive order on wage stabilization, as well as to the policies developed under this order by the National War Labor Board." It went on to quote President D. B. Robertson of the B. of L. F. & E. as having said "we feel our people are entitled to an increase, under the terms of the stabilization order and to correct maladjustments."

The brotherhoods' move had been anticipated since the non-operating employees in September made their pending demand for a 20 cents per hour increase, a minimum wage of 70 cents per hour, and a closed shop. The brotherhoods' announcement refers to last December's mediation settlement of the 1941 wage case, recalling that the train service employees there won an increase of 9½ cents an hour. It then quotes "the chiefs" as having declared that "since then living costs have risen considerably, and many inequalities exist that should be adjusted."

Freight Car Loading

Carloadings for the week ended November 21 had not been released by the Association of American Railroads at the time this issue went to press.

Loading of revenue freight for the week ended November 14 totaled 826,601 and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, December 14			
District	1942	1941	1940
Eastern	148,851	179,850	154,617
Allegheny	172,403	187,490	158,849
Pocahontas	54,961	58,390	49,291
Southern	120,820	126,524	108,307
Northwestern	121,876	132,942	98,429
Central Western	133,647	134,849	120,723
Southwestern	74,043	63,845	55,084
Total Western Districts	329,566	331,636	274,236
Total All Roads	826,601	883,890	745,295
Commodities			
Grain and Grain products	41,340	40,297	29,999
Live stock	20,243	15,741	17,851
Coal	165,241	168,262	148,453
Coke	14,135	12,827	11,847
Forest products	42,647	43,201	35,814
Ore	60,152	57,934	37,944
Merchandise l.c.l.	91,065	156,284	150,273
Miscellaneous	391,778	389,344	313,114
Cumulative Total 46 Weeks	38,404,316	37,578,228	32,177,926

In Canada.—Carloadings for the week ended November 14 totaled 68,952, as compared with 68,974 for the previous week and 67,940 a year ago, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
November 14, 1942	68,952	32,567
November 7, 1942	68,974	35,029
October 31, 1942	71,882	35,338
November 15, 1941	67,940	32,751
Cumulative Totals for Canada:		
November 14, 1942	2,986,168	1,556,602
November 15, 1941	2,816,988	1,471,751
November 16, 1940	2,471,516	1,133,098

719th of Southern Pacific Starts Final Rehearsal

The 719th Engineering Railway Operating Battalion, sponsored by and recruited from Southern Pacific forces in Texas and Louisiana, has moved to its own plant at San Antonio, Texas, where it will put on its final war rehearsals preliminary to its

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700,000 Items Of Equipment in U. S. Landing Force

Even Locomotives And Bridges Went With the AEF

The American force invading North Africa is so well equipped that even bridges and locomotives were landed with it, Robert P. Patterson, Undersecretary of War, last night told an audience of 1000 at a dinner of the Crowell-Publishing Co. at the Waldorf-Astoria.

Describing the operation as the

than 10,000 items
items, 68,000 items
plies and drugs, 100,000
ing corps items, including such things as bridges, bulldozers, well-digging equipment, storage tanks and railroad locomotives.

"There are 250,000 different ordnance items alone."

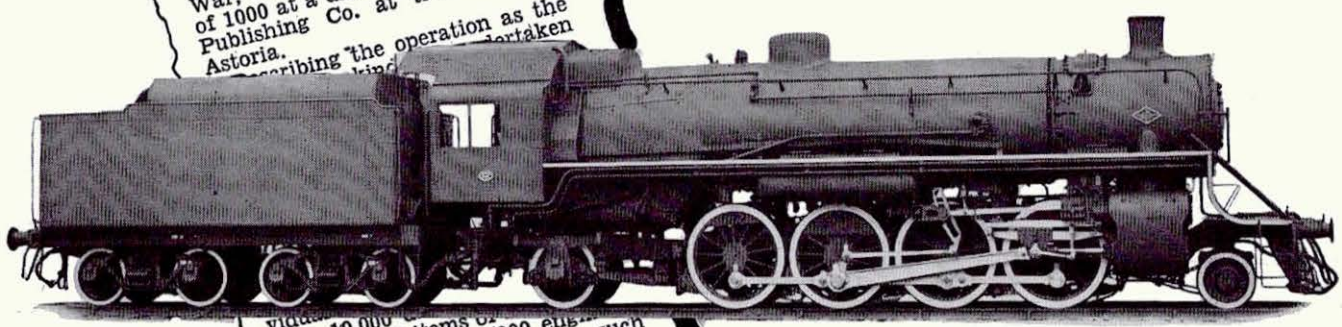
Mr. Patterson said that seven tons of shipping per man were required to land the expedition and a ton and a half per man will be needed to maintain supplies.

Ahead of Schedule.

He noted that the invaders were now only 400 miles from the heart of Italy and said that Mussolini would soon have more reason than ever to regret the famous "stab in the back."

He said that so far the expedition was moving ahead of schedule, that it had met less resistance than expected and that the French are clearly with us and against the Axis.

New York World-Telegram, Nov. 13, 1942



One of the 2-8-2 type locomotives built by Lima for the U. S. Army.

Steam locomotives are as essential to successful military operations as they are to peace-time commerce.

The Lima Locomotive Works, Inc., builder of all types of Modern Steam Locomotives for over 70 years, is supplying America's armies with locomotives of the 2-8-0 and 2-8-2 types, as well as 30-ton M-4 tanks, the famous "General Sherman's" of Libya and North Africa.

LIMA LOCOMOTIVE WORKS — LIMA LOCOMOTIVE WORKS INCORPORATED — INCORPORATED, LIMA, OHIO

entrance into foreign service. The formation of the battalion was started last summer when its officers were put through a refresher course at the Engineer Replacement Training Center at Ft. Leonard Wood, Mo. The battalion was activated on September 1 and officers and men were ordered to Camp Claiborne for training.

The personnel of the battalion consisted of 20 officers and more than 1,000 men taken from the operating forces of the Southern Pacific and other railroads, but when the battalion was moved to San Antonio, the number of men was reduced to battalion requirements. The officers of the 719th are as follows:

Grade	Name	Last position on S. P.
Lt. Col.	Robert F. Williams	Trainmaster at Lafayette
Maj.	Lee F. Tadlock	Terminal supt. at El Paso
Capt.	Milton C. Jones (bat. adj.)	Sec. to v. p. & g. m. at Houston
Capt.	Ernest V. Purdy (sup. off.)	Gen. storkpr. office at Houston
Capt.	Leslie B. McDonald	Sec. to supt. at Houston
Capt.	James N. Fuller	Roadmaster at Austin
Capt.	Hilmar H. Jacobson	Rdhse. foreman at Beaumont
Capt.	Thomas J. Womack	Trainmaster on San Antonio div.
Lt.	Martin H. Read	Train dispr. on Lafayette div.
Lt.	Roy J. Nester	Asst. sig. supvr., Lafayette div.
Lt.	John E. Shaw, Jr.	Sec. foreman at Kenedy
Lt.	William H. Vick	Overseer roundhse. at Ft. Worth
Lt.	Sam L. Gillespie	Rdhse. foreman at Tucson
Lt.	Charles L. Budgeforth	Airbrk. supvr. at Houston shops
Lt.	Charles G. Cook	Trav. engr. at San Antonio
Lt.	Joseph J. Winter	Trainmaster, Victoria div.
Lt.	Gene F. Blake	Brakeman
2nd Lt.	Marvin D. Kelly	Frt. condr. at Sanderson
2nd Lt.	Joseph B. Ciulla	Chf. clk. to gen. 4-man, Houston
2nd Lt.	Raymond L. Laurent	Instman. at Lafayette

A number of the officers have had previous war experience. Lt. Col. Williams served in the Quartermaster corps, Major Tadlock served in the Engineer corps in France; Captains Jones, Womack and Jacobson served in the Navy and Captain Fuller served with the combat engineers in World War I.

The training of the men has covered both railway operation and combat service. Although railway operating battalions are not normally a combat force in the Army, the unit has been trained in the manual of arms, the handling and use of rifles and side arms and combat tactics to meet emergencies. The men have also been drilled in maintenance and operation, learning to build, tear down and dismantle a railroad, construct bridges, build, repair and tear down locomotives, handle signals and dispatch trains under the most difficult conditions. At San Antonio the battalion is receiving its final phase of training on Southern Pacific tracks under an arrangement with the Army.

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HELP

US TO SERVE YOU PROMPTLY

The press of war work demands that we ask for closer cooperation so that we may serve you promptly.

Some railroads with thousands of grease lubricators in service have recently been ordering perforated plates by two's and four's.

To fill an order for perforated plates whether for 2 or 200 requires:

Selection of stock by proper gauge

Setting up dies for perforating the plate

Setting machines for rolling and forming

Setting machines for bending, trimming, etc.

You can prevent handicaps for us and also get faster service by placing orders in maximum allowable quantities.

on repair parts

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

and stopped upright, but derailed. The mail car and six of the coaches overturned on the trestle, falling into the dry bed of the stream. The other coach remained on the bridge, while the three Pullmans on the rear of the train were not derailed, and stopped without damage.

The bridge is an open-deck pile and frame bent trestle 1,128 ft. long. The fire on its south end had so weakened the structure as to cause the derailment. As a result of the fire and the derailment 28 of the bridge's bents were destroyed.

Flexing Southwest's Rate Structure for the Duration

Making its twenty-eight supplemental report in No. 13535, Consolidated Southwestern Cases, the Interstate Commerce Commission has suspended for the duration of the war the preference and prejudice requirements of that proceeding's original order insofar as such requirements apply to rates to, from and between points in the Southwest on commodities with respect to which no specific column or percentage of first-class rates have been prescribed. The modification will give Southwestern roads greater freedom in publishing reduced rates on particular commodities from and to particular points where special circumstances and conditions warrant such rates; and the report indicates that such special circumstances have arisen with respect to traffic in and out of plants constructed in the Southwest in connection with the war program.

The commission's action is based on its view that the "rigidity" which its previous order created ("such rigidity in rate adjustment as now exists in the Southwest exists in no other section of the country") should not continue during the war period. The modification is for the duration and six months thereafter, "or until further order of the commission." The dissent of Commissioner Mahaffie is noted, while Commissioner Splawn did not participate in the disposition of the proceeding.

Eastman's Adviser Recommends Abandonment of Ill. Terminal

Recommendation that the Decatur-Danville and the Decatur-Mackinaw Junction lines of the Illinois Terminal be certified to the War Production Board as non-essential to the war transportation effort was made to Joseph B. Eastman, director of the Office of Defense Transportation, on November 17, by Ralph H. Jewell, special adviser to the director. The recommendation followed a request for certification by the War Production Board which had previously requisitioned the rails and other material but which had delayed demolition because the Illinois Commerce Commission had objected to the order. Before O. D. T. certifies to W. P. B. whether continued operation of the lines is or is not essential to the war effort interested persons will be given an opportunity before December 3 to criticize or comment upon the recommendations.

Mr. Jewell reported that salvage of the lines, about 130 miles, would yield 18,700 tons of ferrous metal, including 16,000 tons of rails and 650 tons of copper. He also referred to a study made by the O. D. T. in October, 1942, which showed that passenger traffic on these lines as well as on competing bus lines is rather light and he indicated that an expansion of personnel in new war plants at Decatur and Illiopolis might result in a rather small increase in passenger movement by either bus or rail lines. The October study, he said, indicated that a substituted bus service, requiring the use of seven additional buses, could accommodate the passenger traffic.

He reported that of 4,096 carloads of freight received or forwarded by the lines in the first six months of 1942, about 378 could not be handled if service on the two branch lines were discontinued. Possibly five grain elevators, he said, would have to be abandoned and the traffic diverted to other elevators or handled by trucks.

Since October, the Illinois Commerce Commission has been holding hearings on the abandonment. Witnesses for the University of Illinois testified on November 20, that the facilities of the railroad were needed because 1,618 students, 15 per cent of the enrollment, depend upon the railroad for transportation.

War Makes Heavy Demands on Swiss Federal Railroads

Before the outbreak of World War II, the Swiss Federal Railroads invariably received freight imported into Switzerland in foreign cars, which on their return trip, carried Swiss exports, thus necessitating a relatively small amount of rolling stock. This was in accordance with an international agreement to the effect that necessary cars be furnished by the road making the original shipment. Since the beginning of the war, however, the Swiss railways have been obliged to take delivery of freight for Switzerland from foreign countries with their own rolling stock.

In 1936 the Swiss Federal Railways owned over 15,700 freight cars and there were also 1,800 privately-owned freight cars at their disposal, so that normal traffic needs were fully covered. In 1938, anticipating that difficulties might arise, the Swiss railways ordered a larger number of freight cars than usual and also arranged to have all older units repaired. In 1939 the Swiss Federal Council granted a special credit of 14 million Swiss francs to enable the railroads to have 900 additional covered freight cars built. The Swiss railways now have 17,700 freight cars of their own and 2,200 privately-owned cars at their disposal.

During the period from September, 1939, to July, 1942, 272,000 freight cars were used for shipments to foreign countries. Inland traffic and army requirements called for an increasing number of cars within the country. At present a daily average of 7,500 freight cars are loaded in Switzerland. This number usually increases about 10 per cent in the Fall. In addition, from 500 to 600 cars are sent to foreign countries daily to pick up merchandise vitally necessary to the country's existence.

Up to the present the railways have been able to meet these ever-growing demands. Besides increasing their rolling stock they have reduced time limits for loading, unloading and reshipping; they have doubled demurrage charges and accelerated freight shipments; they have permitted loading and unloading of freight outside of regular working hours, and have allowed freight car loads to exceed slightly the maximum prescribed weight.

Today these measures no longer suffice. More and more cars are needed for foreign shipments and further steps will undoubtedly have to be taken. Time limits on loading and unloading will probably have to be further reduced. It may also become necessary to extend the regular working hours and to have certain concerns sending and receiving large shipments work nights and Sundays. These measures, however, will only be introduced if found to be absolutely necessary.

Change in Public Opinion Due to Railroad Advertising

Because the essential part that railways play in the daily life of the country had been so common-place that people had taken them for granted, only a large advertising and publicity program could remind them that the railroads are the only form of transportation that can serve the country adequately, according to Col. Robert S. Henry, assistant to the president of the Association of American Railroads, in a luncheon address before the Federated Advertising Club of Chicago on November 19. Mr. Henry described the methods used in and the results accomplished by the program started by the railroads several years ago in an effort to change the unfavorable attitude of the public and government, which had existed for some time, into a realization that the many contributions made by the railroads in the development of the country had been overlooked. Because their services were regulated, because their charges were fixed and because the public was not aware of the improvements that had been made, he continued, the railroads were admonished and told to modernize.

One thing the public did not know because of its limited knowledge, he continued, was the fact that the railroads had spent a billion dollars a year, since 1923, in the modernization of their services. Because the attitude was the result of a lack of knowledge, he said, the program was designed to familiarize the public with the accomplishments of the railroads and to encourage patronage.

Now, he pointed out, the objective is to tell what the railroads mean to the war. As a result of the efforts of the railroads and the co-operation of shippers, he said, the performance of the railroads during the war has doubled, although they have less equipment than they had in years of peak traffic.

HENRY FORD'S private railroad car, "Fairlane," has been sold to the St. Louis Southwestern at St. Louis, Mo., by the American Railway Equipment Company of New York.

The car was built for Mr. Ford by the Pullman-Standard Car Manufacturing Company a few years ago at a reported cost of over $153,000.

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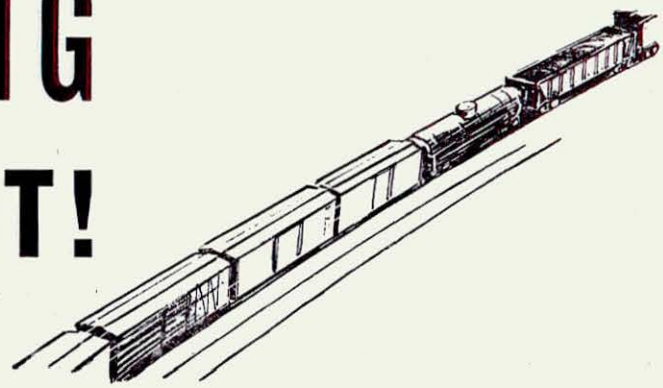
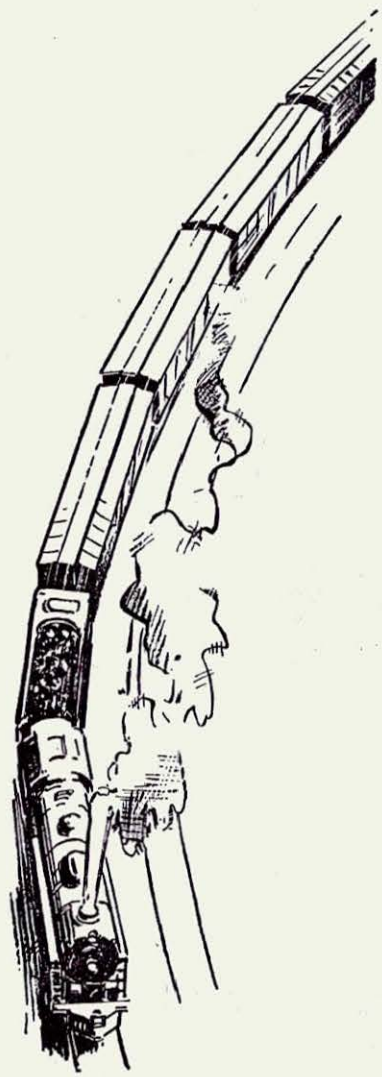
FUEL SAVING
AN ARCH HABIT!

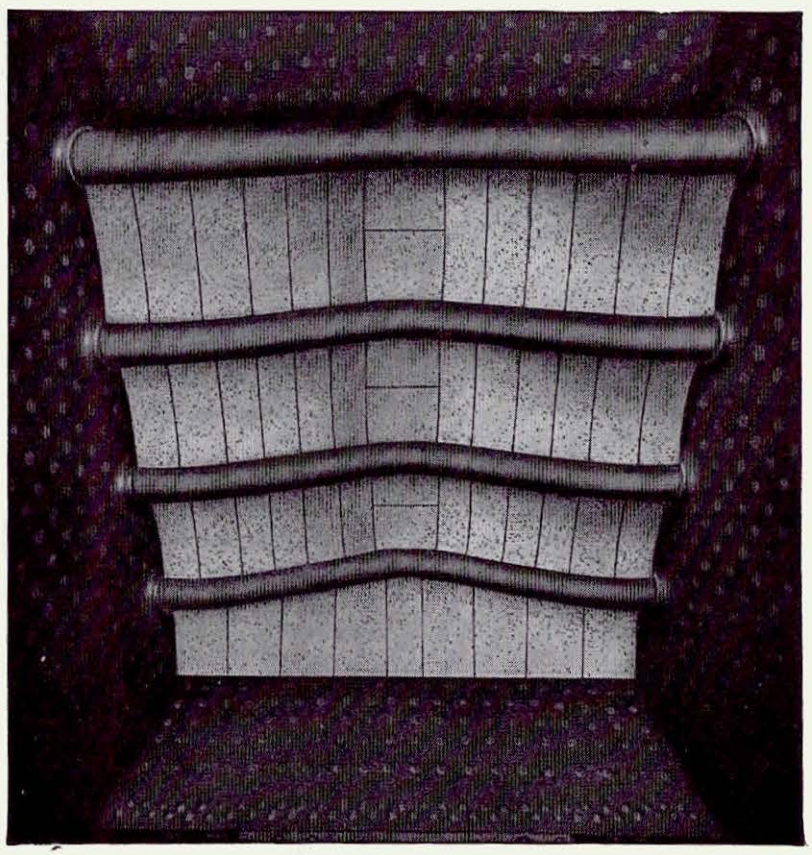


Over 32 years ago railroad men satisfied themselves as to the fuel saving of the locomotive Arch.

Since then the increase in locomotive power, higher rates of combustion and the widespread use of stokers has increased the fuel savings attributable to the Arch.

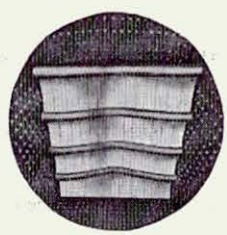
Today, when conservation of fuel is so vitally important to our war effort, don't handicap the effectiveness of the Arch by skimping on Arch brick. When your locomotives leave the roundhouse, be sure they are equipped with a *complete* Arch.





HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

Equipment and Supplies

Mo. P. to Spend $4,613,380

THE MISSOURI PACIFIC has been authorized by the District Court to spend $4,613,380 for new equipment including 15 steam locomotives to cost $3,123,000.

FREIGHT CARS

THE DELAWARE, LACKAWANNA & WESTERN is inquiring for 100 triple hopper cars of 70 tons' capacity.

THE CHICAGO, ROCK ISLAND & PACIFIC is inquiring for 400 gondola cars of 70 tons' capacity.

THE READING has placed an order for 28 tons of 130-lb. R. E. headfree rail, second quality, with the Bethlehem Steel Company.

Construction

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Contracts have been awarded for the construction of new lime-soda water treating plants at La Crosse, Wis., and New Lisbon. The treating plant at La Crosse, which will have a capacity of 42,000 gal. per hour, will consist of a hollow tile building 28 ft. by 50 ft., with a chemical storage room and a machinery room and an outside 150,000-gal. redwood settling tank on concrete foundations. A 14-ft. by 20-ft. mixing tank will be erected inside the settling tank. The treating plant at New Lisbon, which will have a capacity of 20,000 gal. per hour, will consist of a similar hollow tile building 28 ft. by 40 ft., a redwood settling tank and a 10-ft. by 20-ft. mixing tank.

A general contract for both treating plants, tanks, pipe and electrical work has been awarded Hugh Davey & Son, Mason City, Iowa. A contract for the chemical vat assembly and chemical pump equipment at both plants has been awarded to the Johnson Machine Works, Chariton, Iowa. The plants will cost approximately $25,000 each.

NEW YORK, NEW HAVEN & HARTFORD.—This railroad has authorized the construction of additional tracks at its Westchester yard in New York at estimated cost of $130,000. The company has also awarded a contract for alterations to its freight-house at Providence, R. I., at estimated cost of $65,000, to the Tredennick-Billings Company, Boston, Mass.

LONG ISLAND.—This railroad has awarded a contract for the construction of permanent highway facilities in connection with the Atlantic avenue improvement in Queens and Kings counties, New York, at estimated cost of $1,785,000, to Rusciano & Son Corporation of New York City.

Supply Trade

The Army-Navy "E" pennant for excellence in war production has been awarded to the **Union Asbestos & Rubber Company's** Paterson, N. J., plant.

The **Prime Manufacturing Company,** Milwaukee, Wisc., has acquired the products of the **Graham-White Sander Corporation,** Roanoke, Va.

H. M. Bardin, formerly in charge of marine sales, New York district, for the **General Electric Company,** has been appointed assistant manager, transportation department, in the New York district.

The Carnegie-Illinois Steel Corporation has been awarded the joint Army-Navy "E" pennant for continued outstanding production achievements, and received the privilege of displaying the new pennant with two stars affixed. Previous awards to this United States Steel Corporation subsidiary included the Bureau of Ordnance flag and the Navy "E" pennant, announced October 24, 1941, and, later, the All-Navy "E" burgee.

Molten steel flowed for the first time on November 23 from the Defense Plant Corporation's huge expansion of the **Carnegie-Illinois Steel Corporation's** Monongahela Valley facilities when employees of this United States Steel subsidiary brought into production a new electric furnace at nearby Duquesne, Pa. Scheduled to yield more than 160,000 tons annually of the high-grade alloy steels used in the manufacture of guns, shells, and airplane parts, a battery of three new electric furnaces is expected to be in full operation soon.

The Baldwin Locomotive Works is revamping its products to suit changing conditions of warfare and the change in the industrial cycle from a building era to a production era, according to a recent statement by Ralph Kelly, executive vice-president of the company. "As an instance of this revamping, the Southwark division is now making steering gears for ships, airplane elevators for aircraft carriers, and catapults for airplanes, in contrast with machine tool equipment which it was making in large quantities last year, such as hydraulic presses, bending rolls and piercing presses for large shells, and draw benches. Tank production has changed to include the manufacture of several types of tanks, each one fulfilling a definite requirement in a modern army. Changing products to match war needs, and stepping up production, has been accomplished without the erection of new buildings. But practically all of the space in the large buildings at Eddystone, Pa., is now occupied and devoted to the manufacture of war products, and many thousand men have been trained in mechanical skills to turn out the great variety of work manufactured in the Baldwin plant. Baldwin continues as a large producer of locomotives; the majority of its output at the present time being a consolidation type of locomotive for the Army, similar to the famous "Pershing" engine which performed so successfully in France in 1917 and 1918. The other locomotives are indirectly for war work, in that they are for domestic railroads to assist in carrying the largest freight and passenger loads of all time. The company has followed a policy of preserving a flexibility sufficient to enable it to shift with the needs of modern war while manufacturing the largest volume in its history."

Wade Murphy, for the past 10 years assistant to the vice-president of the **Minneapolis-Honeywell Regulator Company** in charge of the eastern zone, with headquarters in New York, has been appointed special assistant to Thomas McDonald, vice-president of the new Minneapolis-Honeywell electronics plant at Chicago. Mr. Murphy began his business career as a railroader, rising to the position of assistant to the president of the Wabash. He resigned in 1917 to accept a position with the Service Truck Company in Wabash, Ind. He joined the Minneapolis-Honeywell Regulator Company in 1931, and became assistant general manager of the eastern zone.

OBITUARY

W. C. Herron, representative of the Texas Company at Chicago was struck and instantly killed by an automobile on November 6, while on his way to work.

William H. Fenley, western manager of the Kerite Insulated Wire and Cable Company, with headquarters at Chicago, died in that city on November 22.

Azel Ames, sales engineer for the Kerite Insulated Wire & Cable Co., and a colonel in the inactive reserve of the United States Army, died November 22. He was 69 years of age. Colonel Ames was graduated from the Massachusetts Institute of Technology in 1895 and entered railway service in that same year as an assistant engineer with the Boston & Maine. He served as trackman and sub-foreman on the western division of that road from 1896 to 1898. In 1898-99, in the Spanish-American War, he served as a captain with the 1st regiment, U. S. volunteer engineers, and took part in the expedition to Porto Rico. During his subsequent career he was assistant roadmaster at West Albany, N. Y., and track supervisor at High Bridge, N. Y., with the New York Central from 1899 to 1901; roadmaster at Chatham, N. Y. (1901-02), and signal and electrical engineer at Boston, Mass. (1902-04), for the Boston & Albany; signal engineer at Cleveland, Ohio, for the Lake Shore & Michigan Southern (now the New York Central) from 1904 to 1906; and signal engineer, electric zone, New York, for the New York Central from 1906 to 1908. He joined the Kerite Insulated Wire & Cable Co. as sales engineer in 1909. During the world war he served as a major in the coast artillery, United States Army, and from 1918 to 1935 held the ranks of major, lieutenant colonel and colonel with the coast artillery reserve, commanding the 602d (railway) coast artillery. Since 1935 he has held the rank of colonel, inactive reserve. Colonel Ames was a member of

News Department continued on next left-hand page

NO FOUNDRY DEFECTS

HUNT-SPILLER *Air Furnace* GUN IRON Castings are hard to wear out but very easy to machine.

Operators do not have to be on the alert for hard spots or sand holes. HSGI Castings can be safely machined at maximum speeds without any fear of damage to the cutting tools.

Because of their perfect uniformity HSGI Castings are manufactured very close to finished sizes. Less stock has to be removed —less time is required for each machining job.

HSGI
Reg. U.S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings
Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

HUNT-SPILLER MFG. CORPORATION
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383 Dorchester Ave. *Office & Works* South Boston, Mass.

Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
Export Agent for Latin America:
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HUNT-SPILLER *Air Furnace* GUN IRON

the signal section of the Association of American Railroads; the American Railway Engineering Association; the British Institution of Railway Signal Engineers; the American Institute of Electrical Engineers (associate); and the Society of Automotive Engineers. He was a member of the Block Signal and Train Control board of the Interstate Commerce Commission from 1908 to 1911, and was the author of "Railway Signalling" in the Standard Handbook for Electrical Engineers in 1922 and "Use of Railway Artillery in Coast Defense" in 1918. He was a member of the Engineers club of Boston, Mass.; the Army and Navy club of Washington; and the Railroad-Machinery and Engineers club of New York.

Edmund N. Boswell, manager of the Dunkirk, N. Y., plant of the American Locomotive Company since 1937, and an employee of that company for more than 44

Edmund N. Boswell

years, died November 19. He was 60 years of age. Mr. Boswell joined the American Locomotive Company in 1898 as a machinist at the Richmond, Va., plant, which was then known as the Richmond Locomotive Works. During the world war, he served at the company's Paterson, N. J., plant. When the Paterson plant was closed in 1926, he was transferred to the New York offices. In January, 1937, he went to the Montreal, Canada, plant as manager, and on December 1 of that year he was transferred to Dunkirk as plant manager. All work at the Dunkirk plant was stopped for five minutes at 2:00 p. m. on November 23 in his honor.

THE TIMKEN ROLLER BEARING COMPANY'S freight car time conservation program, in effect during the last eleven months, has released for other use the equivalent of 157 100-car freight trains for 24 hours. Since November, 1941, the Timken Roller Bearing Company has completely eliminated demurrage of all freight cars bringing material into or taking material out of their ten plants. A total of 20,395 cars were held an average of 29 hours and 29 minutes, which is 18 hours and 31 minutes less per car than the free time allowed by the railroads.

Abandonments

ATCHISON, TOPEKA & SANTA FE.—Examiner Ralph H. Jewell has recommended that the Office of Defense Transportation certify to the War Production Board that a segment of the New Mexico Central, operated by this road, between Moriarty, N. M., and Stanley, 11.6 miles, is not essential to war transportation.

ATLANTIC COAST LINE.—Examiner A. G. Nye has recommended that the Interstate Commerce Commission authorize this road to abandon its branch from a point east of Kissimmee, Fla., to Narcoossee, approximately 13.8 miles, in a report in which he remarks, in summarizing certain objections to the application, that "a railroad line that does not handle enough traffic to pay the cost of operation should not be required to continue to operate merely to avoid demoralization of business in the community served by it."

BOSTON & MAINE.—Examiner Ralph H. Jewell has recommended that the Office of Defense Transportation certify to the War Production Board that this road's branch from Hamilton, Mass., to Essex, 5.17 miles, is not essential to war transportation.

CHICAGO, BURLINGTON & QUINCY.—Examiner Ralph H. Jewell has recommended to the Office of Defense Transportation that it certify to the War Production Board that a segment of this road between Alma, Neb., and Huntley, 9.77 miles, is not essential to war transportation.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—This road has filed with the Interstate Commerce Commission separate applications seeking authority to abandon the 4.7-mile section of its Hanibal branch between Cornell, Wis., and Holcombe; and the 7.2-mile section of its Spring Valley branch between Spring Valley, Wis., and Elmwood.

LONG ISLAND.—This road has applied to the Interstate Commerce Commission for authority to abandon its Bethpage branch, extending from a connection with its main line west of Farmingdale to Bethpage, 1.56 miles.

NEW YORK, NEW HAVEN & HARTFORD.—This road has applied to the Interstate Commerce Commission for authority to abandon a line between Northampton, Mass., and Cheapside, 17.05 miles.

OREGON, PACIFIC & EASTERN.—This road has applied to the Interstate Commerce Commission for authority to abandon two miles of line extending along Layng creek in Lane County, Oregon.

SEABOARD AIR LINE.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon operation of two branch lines owned by subsidiaries which in the same proceeding are authorized to abandon the lines; namely, one of the Seaboard-All Florida from Alva, Fla., to LaBelle, 12.09 miles, and one of that company and the Naples, Seaboard & Gulf from Punta Rassa Junction, Fla., to Naples, 27.49 miles. Jurisdiction is reserved over the protection of employees adversely affected.

SOUTHERN PACIFIC.—This road has been authorized by Division 4 of the Interstate Commerce Commission to abandon a portion of an industrial branch in Baden, Calif., 0.591 mile in length.

SOUTHERN PACIFIC.—The Interstate Commerce Commission, Division 4, has authorized this road to abandon part of a branch line from Knights Landing Junction, Calif., to Boyer, 13.954 miles.

WABASH.—In a proposed report Examiner Lucian Jordan recommends that the Interstate Commerce Commission authorize this road to abandon its branch from Helmer, Ind., to Stroh, 4.83 miles.

Financial

ALABAMA GREAT SOUTHERN.—*Bonds.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to issue $9,500,000 of first mortgage bonds to bear interest at 3¼ per cent. Such bonds will be issued as of November 1, 1942, and will mature in 25 years unless redeemed sooner at prices specified. Sale at 98.577 to a group represented by Salomon Brothers & Hutzler was approved. The proceeds will be used, together with treasury funds, to retire $9,518,000 of first mortgage bonds outstanding, which will mature December 1, 1943, including $4,312,000 of series A bearing 5 per cent interest and $5,206,000 of series B 4 per cent bonds.

ATCHISON, TOPEKA & SANTA FE.—*New Director.*—Fred G. Gurley, vice-president, executive department, of the Santa Fe, has been elected a director, succeeding Clarence M. Woolley, who resigned on November 19 after serving more than 12 years as a member of the board.

CHESAPEAKE & OHIO.—*Offers to Retire Obligations.*—The Chesapeake & Ohio has offered to retire at this time $2,295,000 in obligations due early in 1943 by the payment of principal and full interest to maturity. The offer was made to holders of series G-2 refunding and improvement mortgage bonds due February 1, 1943, outstanding in the amount of $1,380,000, and to holders of the 2 per cent equipment trust certificates of 1937, due March 1, 1943, outstanding in the amount of $400,000, for which two obligations J. P. Morgan & Co., of New York, will be the surrendering agent, and to holders of the 1¾ per cent serial equipment trust certificates of 1942, due February 15, 1943, outstanding in the amount of $515,000, for which the Guaranty Trust Company of New York will be the agent.

BOSTON TERMINAL. — *Reorganization Plan.*—A proposed plan for the reorganization of this company has been submitted to the Interstate Commerce Commission by this company. The plan proposes that a cash payment of $20 per $1000 face value

News Department continued on next left-hand page

High-pressure High-temperature Steam flows at 100 MPH through Superheater Unit Joints

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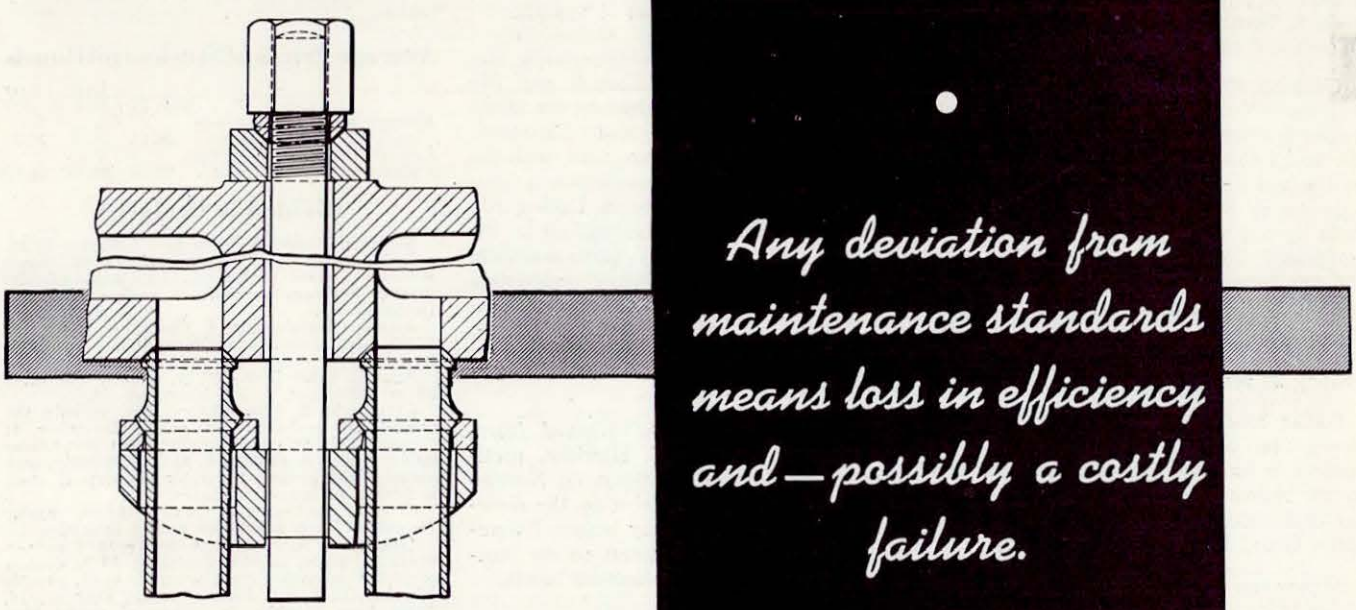
Any deviation from maintenance standards means loss in efficiency and—possibly a costly failure.

A very important part of superheater equipment is bolt, nut and bolt washer used to complete joint between unit and header.



A-1543

ELESCO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Blvd., CHICAGO
• • •
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

of outstanding bonds be made from funds on deposit, requiring a total of $303,100. A new issue of first mortgage bonds, dated August 1, 1939, in the amount of $14,851,900 would be exchanged for the outstanding first mortgage bonds. The new issue would bear interest at the rate of 3 per cent, but interest would be paid only on a portion of the issue, payment being deferred on the balance until the interest bearing portion could be retired through a sinking fund. The proportion of the issue to be deferred as to interest is subject to later determination, depending on the terms of the final reorganization plans adopted for the New York, New Haven & Hartford and associated companies, which will affect payments made to the terminal company. The existing common stock is to be cancelled under the plan, and a new issue of 500 shares with a par value of $100 is to be distributed to the present stockholders.

CHICAGO, BURLINGTON & QUINCY.—*Increases Common Dividend.*—Directors of the Chicago, Burlington & Quincy on November 21 voted a dividend of $3 a share on the common stock, payable December 22. This distribution will be the largest made on the stock since the $4 disbursement in 1936. From 1937 through 1941 the road paid $2 annually.

CHICAGO, BURLINGTON & QUINCY.—*Stamford & Northwestern Bonds.*—The Stamford & Northwestern has applied to the Interstate Commerce Commission for authority to extend to February 1, 1954, the obligation and lien of its first mortgage six per cent bonds which matured February 1, 1939. The bonds, outstanding in the amount of $1,872,880, are held by the Colorado & Southern, which controls the applicant and operates its line.

CHICAGO, ROCK ISLAND & PACIFIC.—*Prepayment.*—Trustees of the Chicago, Rock Island & Pacific on November 17 were authorized by the United States district court at Chicago to prepay principal installments aggregating $5,336,533 on two conditional sales agreements covering the cost of new equipment which was purchased to meet the war demands. The prepayment of these installments, which otherwise would run until 1949, will reduce the Rock Island's outstanding equipment indebtedness approximately 20 per cent.

GREAT NORTHERN.—*Invitation for Tenders.*—The Great Northern has invited tenders on or prior to December 8 for sale to the railroad of its general mortgage 4 per cent convertible bonds due July 1, 1946, series G and H.

MINNEAPOLIS & ST. LOUIS.—*Reorganization Plan Effected.*—Coverdale & Colpitts, reorganization managers of the Minneapolis & St. Louis, have announced that the railroad's plan of reorganization dated as of May 1, 1942, has been declared operative.

MISSOURI PACIFIC.—*Court Authorizes Interest Payment.*—The United States district court at St. Louis, Mo., on November 18 authorized the trustee of the Missouri Pacific to pay $10,070,612 in interest on three bond issues of the railroad system as follows: $6,579,762 on the Missouri Pacific's first and refunding mortgage bonds; $2,283,350 on the New Orleans, Texas & Mexico (Gulf Coast Lines) first mortgage and income bonds; and $1,207,500 on International-Great Northern first mortgage bonds. The court directed that the payments be credited against interest on new securities to be issued under a plan of reorganization for the railroad which is now before the United States circuit court of appeals.

Payment of the interest was opposed by the debtor company, the Alleghany Corporation, and holders of certain underlying bonds, who argued that the payment failed to provide maximum benefit to the company or to protect others concerned in the reorganization. The Alleghany Corporation argued that greater benefit to the Missouri Pacific estate could be achieved by the application of the $10,070,612 cash to the purchase of the same bonds on which it is proposed to pay interest which, at current market prices, would result in the retirement of $25,633,100 principal amount, on which interest accruals are $7,848,217, or a saving of $33,481,317 to the estate. In addition it was said such debt retirement would eliminate $1,303,215 in annual interest charges in the future. An appeal on the court's ruling is reported to be under consideration.

On November 16 the court denied a petition by the executive committee requesting authorization for the repayment of the railroad's debt to the Reconstruction Finance Corporation, amounting to $23,134,800 plus interest (see *Railway Age* of November 21, page 864) and Colonel T. C. Davis, chairman of the executive committee, has declared that the decision will be carried to the circuit court of appeals.

NEW YORK CENTRAL.—*Depreciation Accounting for Michigan Central and Big Four.*—This road and its lessors, the Michigan Central and Cleveland, Cincinnati, Chicago & St. Louis, have filed with the Interstate Commerce Commission a supplemental petition in Finance Docket No. 5690, asking for such modifications of the leases as will permit N. Y. C. to anticipate the commission's mandatory accounting order, effective January 1, 1943, by installing depreciation accounting with respect to the lessors' fixed property as of January 1, 1942.

NORFOLK SOUTHERN.—*Postponed Interest Payment.*—Morris S. Hawkins, president of the Norfolk Southern, on November 19 announced a decision by the directors of the railroad to pay before December 31 the postponed interest on the company's general mortgage income bonds.

SEABOARD AIR LINE.—*Court Approves Tenders on One Issue.*—The United States district court at Norfolk, Va., on November 17 authorized receivers of the Seaboard Air Line to purchase tenders of Seaboard-All Florida first mortgage 6 per cent bonds, series A and B, matured August 1, 1935, at a flat price of $160 for each $1,000 bond. Tenders amounting to more than $7,500,000 are reported to have been received and the railroad has made a general offer to purchase additional bonds at the same price up to December 31, 1942. Where bonds have been deposited with bondholders' committee and certificates of deposit issued, the receivers were authorized to buy the certificates, paying, in addition to the price of the bond, such deposit fee as may be charged by the committee for expenses, provided such fee does not exceed $15 per $1,000 bond. Tenders on the following four other issues of lessor lines were rejected: Georgia & Alabama Terminal first mortgage 5 per cent bonds, due December 1, 1948; Georgia, Florida & Alabama first mortgage and refunding 6 per cent bonds, due August 1, 1952; Tampa & Gulf Coast first mortgage 5 per cent bonds, due April 1, 1953; and Tampa Northern first mortgage 5 per cent bonds, matured July 1, 1936.

UNION PACIFIC.—*Modification of Equipment Trust.*—This road has filed with the Interstate Commerce Commission a supplemental application in Finance Docket No. 13466, seeking such a modification of the previous order of October 15, 1941, as will permit the substitution of equipment authorized by the War Production Board for 1,251 of the original program's steel box cars on which production was halted by WPB. The box cars were part of an order for 2,000 being built in U.P. shops. The substitute equipment will be 1,000 composite gondolas to be built by the Pullman-Standard Car Manufacturing Company, and three high-speed freight locomotives of the 4-6-6-4 type to be built by the American Locomotive Company. The amount of the equipment trust is $13,250,000; and, in addition to the 2,000 box cars, the original program called for 20 locomotives, 70 passenger-train cars, and 100 cabooses.

Average Prices of Stocks and Bonds

	Nov. 24	Last week	Last year
Average price of 20 representative railway stocks..	28.63	28.93	28.89
Average price of 20 representative railway bonds..	68.16	68.13	64.82

Dividends Declared

Atchison, Topeka & Santa Fe.—Common, $1.50, payable March 1, 1943, to holders of record January 29, 1943; preferred, $2.50, semi-annually, payable February 1, 1943, to holders of record December 31.

Atlanta, Birmingham & Coast. — Preferred, $2.50, semi-annually, payable January 1, 1943, to holders of record December 11.

Atlantic Coast Line.—$2.00, payable December 23 to holders of record November 30.

Chesapeake & Ohio.—Extra, 50c, payable December 26 to holders of record December 4; Common, 75c, quarterly; 4 Per Cent Non-Cumulative, Series A Preferred, $1.00, quarterly, both common and preferred payable January 1, 1943, to holders of record December 4.

Chicago, Burlington & Quincy.—$3.00, payable December 22 to holders of record December 12.

Cincinnati, New Orleans & Texas Pacific.—Common, $4.00, payable December 19 to holders of record November 30; Preferred, $1.25, payable March 1, 1943, to holders of record February 15, 1943; June 1, 1943, to holders of record May 15, 1943; September 1, 1943, to holders of record August 16, and December 1, 1943, to holders of record November 15.

Erie & Pittsburgh.—Guaranteed Stock, 80c, quarterly, payable December 10 to holders of record November 30.

Illinois Central (Leased Lines).—4 Per Cent Guaranteed, $2.00, semi-annually, payable January 1, 1943, to holders of record December 11.

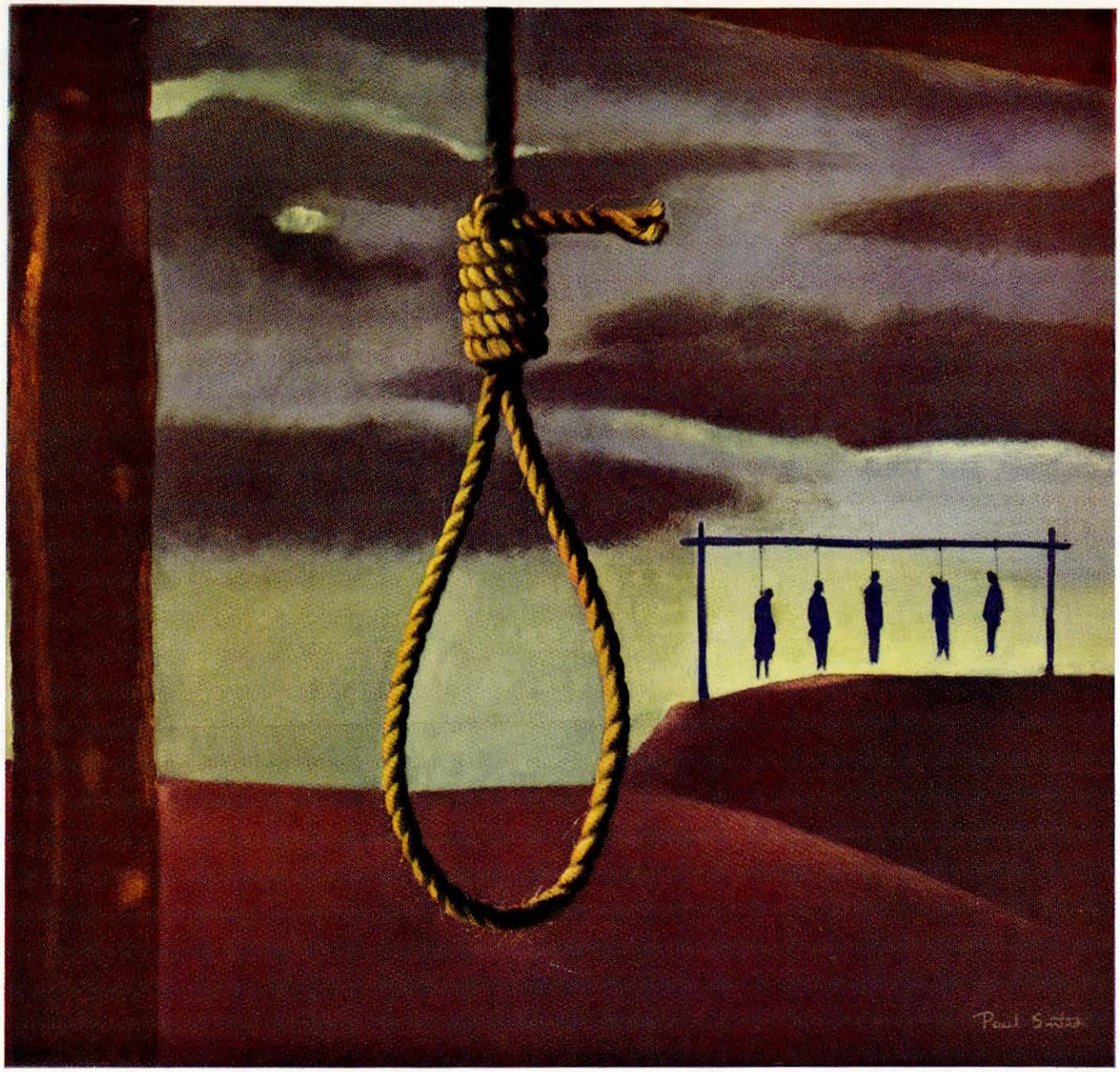
Kansas City Southern.—4 Per Cent Preferred, $2.00, payable December 21 to holders of record December 4.

Louisville & Nashville.—$2.00, payable December 23 to holders of record November 30.

Pullman, Inc.—25c, quarterly; Extra, $1.25, both payable December 15 to holders of record November 30.

Texas & Pacific.—Resumed, $1.00, payable December 15 to holders of record December 1.

News Department continued on second right-hand page



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Now, in the newspapers and magazines we so freely read, we see pictures of strange people...foreign people...hanging from such nooses. Still and silent, their arms by their sides, their heads slightly askew as if they did not completely comprehend what had happened.

We have escaped it...so far. So far, these hangings have happened only to far-away people. Have you ever seriously thought that someday *you* might be the mute subject for such photographs?

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The country that we expect to fight this war for us, the country we assume is invincible, the country we look upon as millions of "other people"...that country can *lose* this war.

Can lose it unless *you*...and unless we who sign this advertisement...look upon it as our individual responsibility. Unless we do not wait to be *told* what to do, but go out and *find out for ourselves* what to do, and *do* it. Unless we realize that each one of us *is* the country.

It's not a minute too soon to get the picture straight...not a minute too soon to pitch in and help turn the tide...not a minute too soon to do everything humanly possible, *now*, to save our necks.

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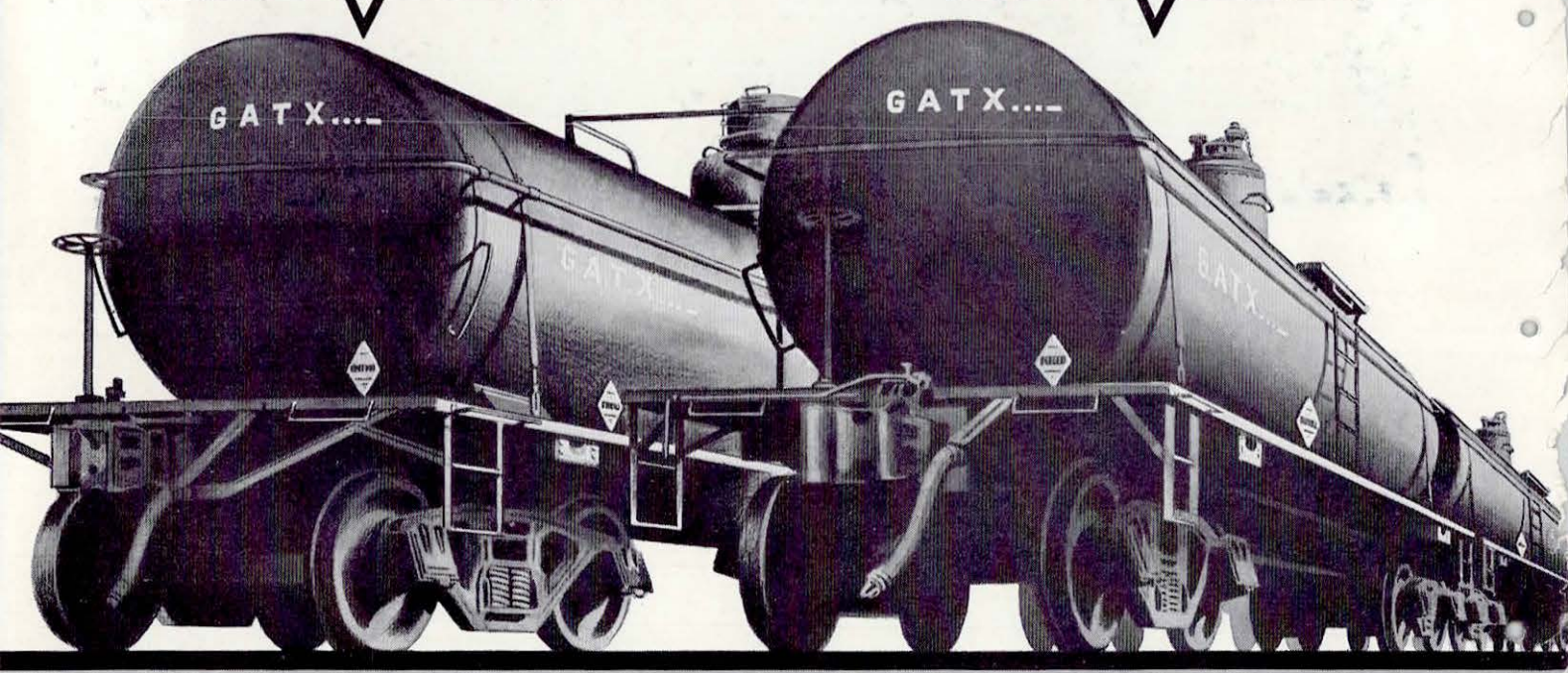

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Railway Officers

EXECUTIVE

W. W. Hale, general traffic manager of the Southern Pacific System at Chicago, has been named vice-president in charge of system freight traffic with headquarters at San Francisco, succeeding the late Joseph T. Saunders.

FINANCIAL, LEGAL AND ACCOUNTING

Richard J. Wagner, whose appointment as tax commissioner and assistant to comptroller of the Louisville & Nashville, with headquarters at Louisville, Ky., was reported in the *Railway Age* of November 14, was born at Louisville on July 16, 1891, and attended a commercial college. He entered railway service on June 21, 1907, as a stenographer-clerk in the mechanical department of the L. & N. at South Louisville, Ky., and on August 1, 1912, was transferred to the office of the auditor of disbursements at Louisville. On June 1, 1916, he was promoted to chief construction clerk in that office and on October 1, 1918, he was advanced to chief clerk to the corporate auditor. Mr. Wagner was promoted to assistant auditor-corporate accounts on March 1, 1919, and on March 1, 1920, he was appointed special accountant in the comptroller's office. On January 1, 1939, he was appointed assistant to the comptroller, which position he held until his recent appointment, effective October 15.

OPERATING

Monroe Campbell, trainmaster of the Louisville & Nashville, with headquarters at Pensacola, Fla., retired recently. He had served the Louisville & Nashville for over 52 years.

TRAFFIC

Roland A. Davis, district freight and passenger agent of the Southern, has been appointed general eastern freight agent, with headquarters as before at New York, succeeding **Charles W. Gowl,** whose promotion to assistant general freight agent was announced in the *Railway Age* of November 14. **William C. Richardson,** district freight and passenger agent at New York, has been promoted to succeed Mr. Davis, and **R. Lee Peace,** traveling freight and passenger agent at New York, has been promoted to district freight and passenger agent, also at New York, succeeding Mr. Richardson.

MECHANICAL

William Q. Daugherty, whose promotion to assistant superintendent of motive power and car equipment of the Gulf, Mobile & Ohio, with headquarters at Jackson, Tenn., was reported in the *Railway Age* of November 7, was born at Verona, Miss., and entered railway service in 1892 in the Decatur (Ala.) shops of the Louisville & Nashville, later serving three years in road service as a locomotive fireman. In August, 1898, Mr. Daugherty went with the Mobile & Ohio (now part of the Gulf, Mobile & Ohio) as a locomotive fireman and two months later he was appointed

William Q. Daugherty

roundhouse foreman at E. St. Louis, Ill. In March, 1901, he was appointed traveling fireman and a year later he returned to E. St. Louis as roundhouse foreman. In May, 1903, he was advanced to general foreman at Meridian, Miss., and in February, 1911, he was promoted to master mechanic at Jackson, Tenn., which position he held until his recent promotion, effective November 1.

P. M. Rooker has been appointed road foreman of engines, Wilmington district of the Atlantic Coast Line, succeeding **H. S. Flippen,** transferred.

SPECIAL

The General Sales department of the Railway Express Agency has been renamed the department of public relations. In conjunction with this change, **K. N. Merritt,** formerly general sales manager, general sales department, has been named general manager, public relations, with headquarters as before at New York. Those officials who have heretofore been known as district sales managers have been given the new title of district managers, public relations.

PURCHASES AND STORES

R. A. Schuff, district storekeeper of the Chicago, Burlington & Quincy at Havelock, Neb., has been promoted to traveling storekeeper, a newly created position, with headquarters at Chicago. **J. K. McCann,** district storekeeper at Denver, Colo., has been transferred to Havelock, succeeding Mr. Schuff, and **R. H. Johnson,** district storekeeper at Lincoln, Neb., has been transferred to Denver, replacing Mr. McCann. **J. W. Schwartz,** assistant district storekeeper at Aurora, Ill., has been appointed district storekeeper at Lincoln, relieving Mr. Johnson, and **J. S. Baker,** district storekeeper at St. Joseph, Mo., has been advanced to assistant district storekeeper at Aurora, succeeding Mr. Schwartz. **A. G. Runge,** chief clerk to the district storekeeper at Sheridan, Wyo., has been promoted to district storekeeper at St. Joseph, replacing Mr. Baker.

OBITUARY

J. R. Hickox, who retired in September, 1935, as hydraulic engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, died on November 2.

Samuel Kent Snedegar, Sr., supervisor of wages and working conditions of the Norfolk & Western at Roanoke, Va., died on November 23, at his home in Roanoke. Mr. Snedegar was 56 years old.

C. F. Handshy, freight claim agent of the Illinois Terminal, with headquarters at St. Louis, Mo., and at one time general manager of that road, died on November 18 at the Macon county hospital at Decatur, Ill.

Walton M. Wentz, publicity representative of the Eastern region of the Pennsylvania at Philadelphia, Pa., whose death on November 16 was announced in the *Railway Age* of November 21, was born on June 26, 1885, at Lineboro, Car-

Walton M. Wentz

roll County, Md. He entered railway service in 1902 as a clerk in the office of the superintendent of the Pennsylvania at Baltimore, Md., and in 1908, when the Pennsylvania's publicity department was organized, Mr. Wentz became stenographer and general assistant of the department at Philadelphia. He was appointed assistant publicity agent at that point in 1916, and editor of the Eastern edition of the "Pennsylvania News," a publication for employees, in 1923. Mr. Wentz became eastern region publicity representative at Philadelphia on January 1, 1932. He was a member of the Pennsylvania System Square Club, an organization consisting entirely of members of the Masonic Fraternity who are in the services of the Pennsylvania. He had formerly served as secretary of the Philadelphia Traffic Club, and, at the time of his death, was chairman of the publicity committee of that association. Mr. Wentz was also a member and past president of the American Railway Magazine Editors Association.

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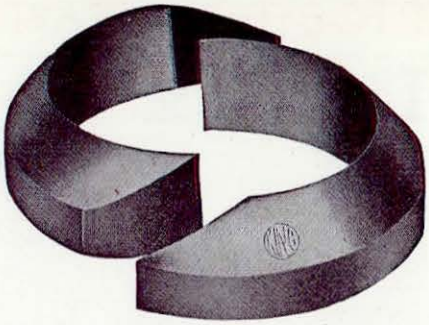

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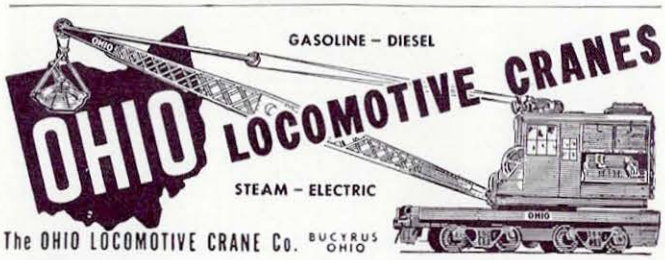

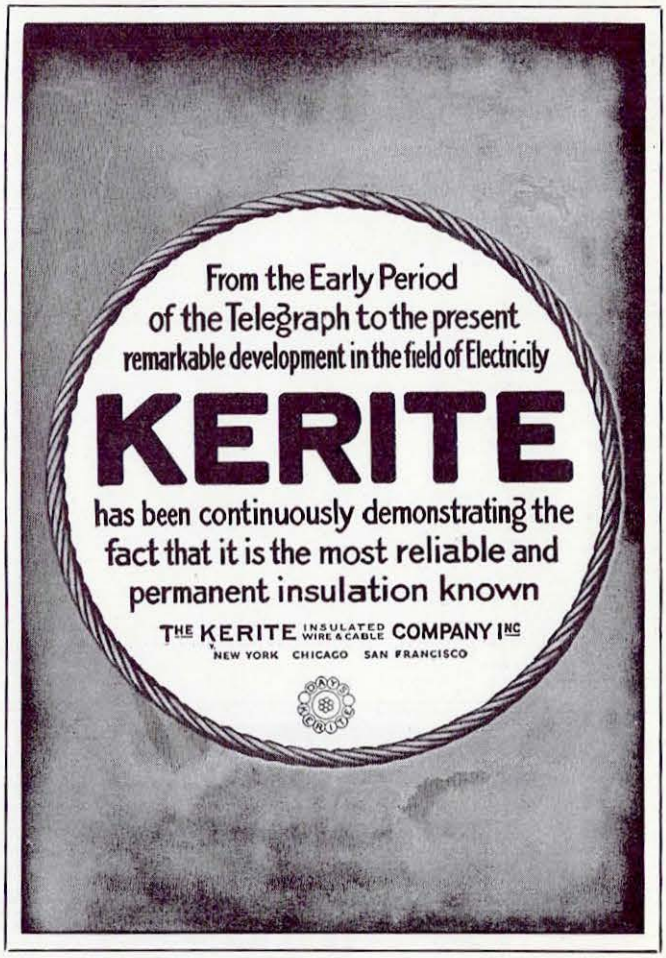
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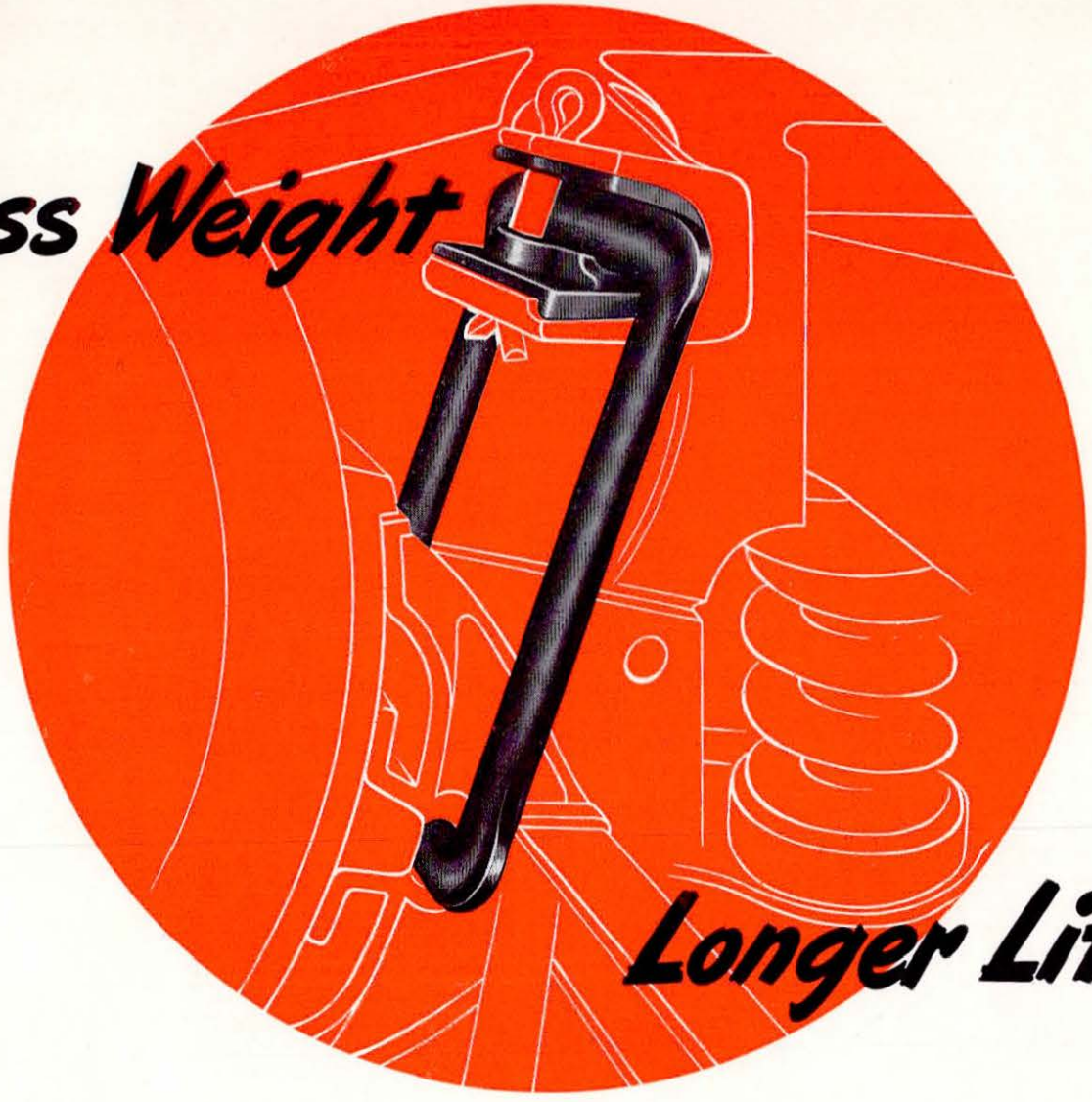

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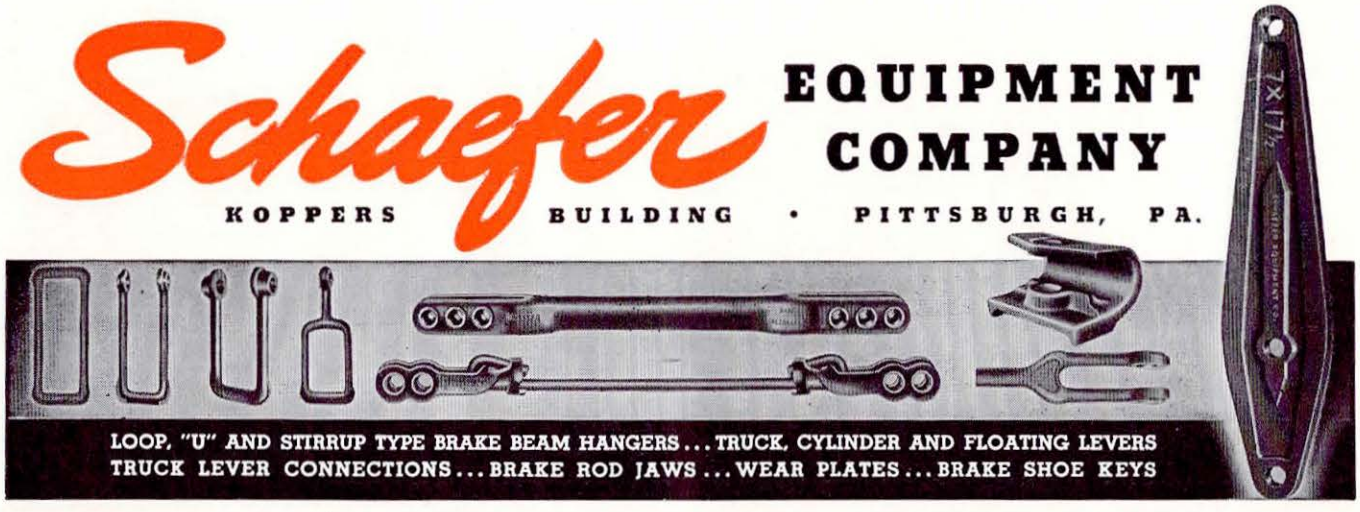

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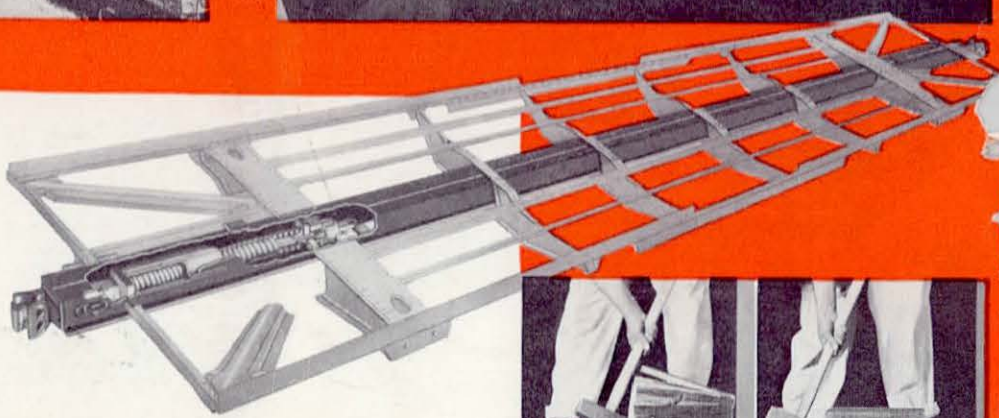

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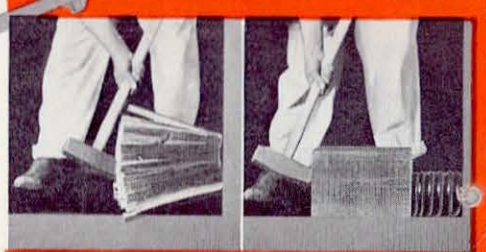
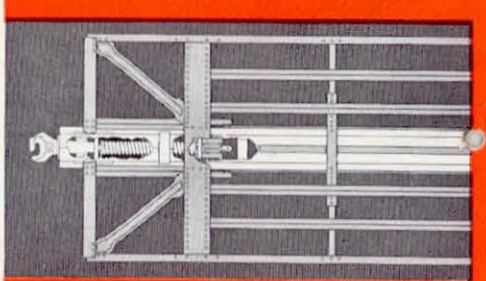
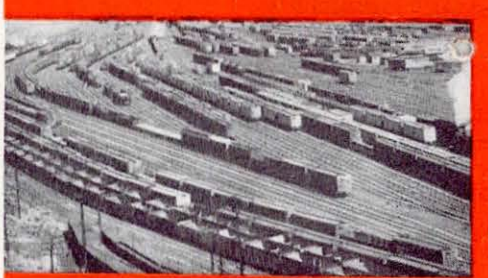


HOW DURYEA CUSHIONING lessens shock. Left: Block of wood (sill) against wall will crack when hit with sledge. Right: With spring allowing block (sill) to slide, hardest blows cause no damage.



PHANTOM VIEW shows how giant springs and floating center sills cushion each wallop, protecting car and contents. Duryea Cushion Gear lasts life of car.



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